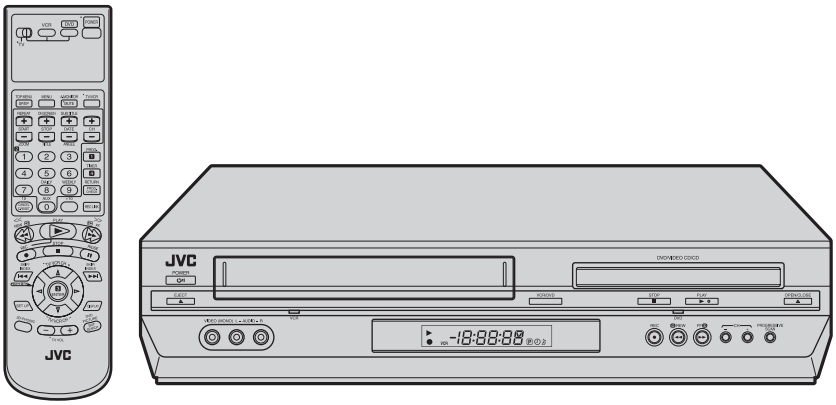
JVC

SERVICE MANUAL

DVD PLAYER & VIDEO CASSETTE RECORDER

HR-XVC22UC, HR-XVC23UC, HR-XVC26US, HR-XVC27UC, HR-XVC27US



HR-XVC22UC, HR-XVC23UC, HR-XVC26US, HR-XVC27UC, HR-XVC27US [D3PV0]

For disassembling and assembling of MECHANISM ASSEMBLY, refer to the SERVICE MANUAL No.86700(MECHANISM ASSEMBLY).

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No.YD008
2004/3

SPECIFICATION

	HR-XVC22UC, HR-XVC23UC	HR-XVC26US ,HR-XVC27UC, HR-XVC27US
GENERAL		
Power requirement	AC 120 V, 60 Hz	
Power consumption		
Power on	22 W	
Power off	2.0 W	
Temperature		
Operating	5°C to 40°C (41°F to 104°F)	
Storage	-20°C to 60°C (-4°F to140°F)	
Operating position	Horizontal only	
Dimensions (W × H × D)	435 mm x 93 mm x 272 mm	
Weight	4.1 kg	
Format	VHS NTSC standard	
Maximum recording time		
(SP)	210 min. with ST-210 video cassette	
(EP)	630 min. with ST-210 video cassette	
VIDEO/AUDIO (VCR deck)		
Signal system	NTSC color signal and EIA monochrome signal, 525 lines/60 fields	
Recording system	DA4 (Double Azimuth) head helical scan system	
Signal-to-noise ratio	45 dB	
Horizontal resolution	230 lines	
Frequency range	70 Hz to 10,000 Hz (Normal audio) 20 Hz to 20,000 Hz (Hi-Fi audio)	
Input/Output	RCA connectors: IN × 1, OUT × 1	
VIDEO/AUDIO (DVD deck)		
Signal system	NTSC	
Applicable disc	DVD (12 cm, 8 cm), CD (12 cm, 8 cm)	
Audio characteristics	DVD:4 Hz - 22 KHz	
Frequency response	CD:4 Hz - 20 KHz	
S/N Ratio	90 dB	
Harmonic distortion	0.1%	
Wow and flutter	Below Measurable Level	
Dynamic range	90 dB	
Output		
Component-Y	(RCA) 1.0 Vp-p/75 Ω	
Component-PB/PR	(RCA) 0.7 Vp-p/75 Ω	
Audio	(RCA) 2 Vrms, 1 KΩ	
Digital Audio	(COAXIAL) 0.5 Vp-p/75 Ω	
TUNER		
Tuning system	Frequency synthesized tuner	
Channel coverage	VHF: Channels 2 - 13, UHF: Channels 14 - 69, CATV: 113 Channels	
RF output	-	Channel 3 or 4 (switchable; preset to Channel 3 when shipped) 75 Ω, unbalanced
TIMER		
Clock reference	Quartz	
Program capacity	1-year programmable timer/8 programs	
Memory backup time	Approx. 5 seconds	
ACCESSORIES		
Provided accessories	RF cable, Audio/Video cable, Infrared remote control unit, "AA" battery × 2	RF cable, Infrared remote control unit, "AA" battery × 2

- Specifications shown are for SP mode unless otherwise specified.
- E.& O.E. Design and specifications subject to change without notice.
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SECTION 1
PRECAUTION

1.1 SAFTY PRECAUTIONS

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold.However,in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

1.1.1 Precautions during Servicing

(1) Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product.When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

(2) Parts identified by the ⚠ symbol and shaded ( ) parts are critical for safety.
Replace only with specified part numbers.

NOTE :

Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

(3) Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.

(4) Use specified internal wiring. Note especially:
- Wires covered with PVC tubing
- Double insulated wires
- High voltage leads

(5) Use specified insulating materials for hazardous live parts. Note especially:
- Insulation Tape
- PVC tubing
- Spacers
- Insulation sheets for transistors
- Barrier

(6) When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

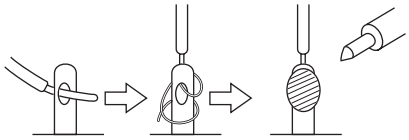


Fig.1-1-1

(7) Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

(8) Check that replaced wires do not contact sharp edged or pointed parts.

(9) When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

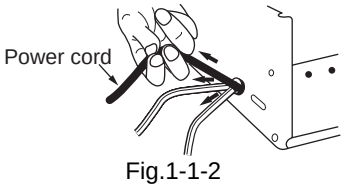


Fig.1-1-2

(10) Also check areas surrounding repaired locations.

(11) Products using cathode ray tubes (CRTs)In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits.Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

(12) Crimp type wire connectorIn such cases as when replacing the power transformer in sets where the connections between the power cord and power trans former primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.
- **Connector part number** :E03830-001
- **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
- **Replacement procedure**

a) Remove the old connector by cutting the wires at a point close to the connector.Important : Do not reuse a connector (discard it).

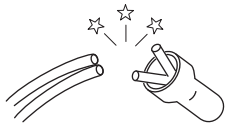


Fig.1-1-3

b) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

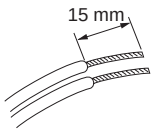


Fig.1-1-4

c) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

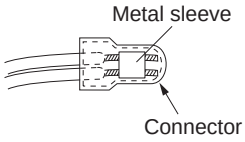


Fig.1-1-5

d) As shown in Fig.1-1-6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

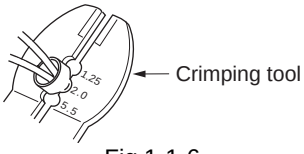


Fig.1-1-6

e) Check the four points noted in Fig.1-1-7.

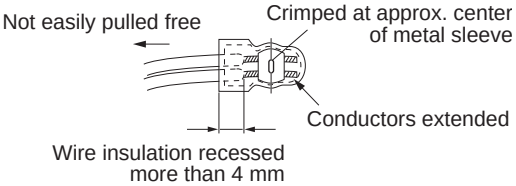

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.1-1-7

1.1.2 Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

(1) Insulation resistance test
Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).See table 1 below.

(2) Dielectric strength test
Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See Fig.1-1-11 below.

(3) Clearance distance
When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See Fig.1-1-11 below.

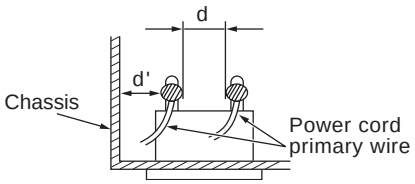


Fig.1-1-8

(4) Leakage current test
Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
Measuring Method : (Power ON)Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig.1-1-9 and following Fig.1-1-12.

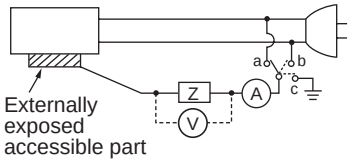
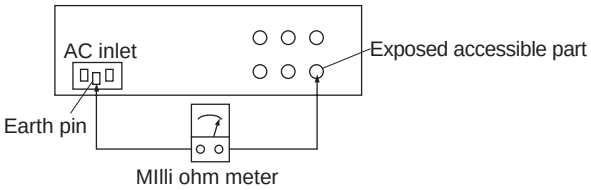


Fig.1-1-9

(5) Grounding (Class 1 model only)
Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).Measuring Method:
Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See Fig.1-1-10 and grounding specifications.



Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

Fig.1-1-10

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R≧1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 minute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ≦R≦12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R≧10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Fig.1-1-11

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Fig.1-1-12

NOTE :

These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

1.2 Preventing static electricity

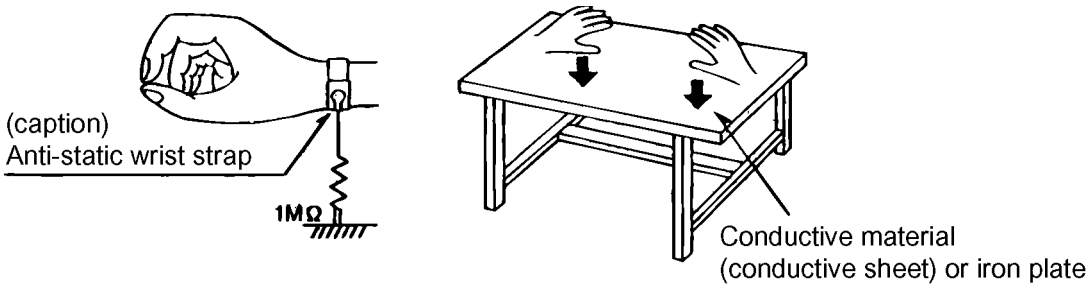
Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

1.2.1 Grounding to prevent damage by static electricity

Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as DVD players.
Be careful to use proper grounding in the area where repairs are being performed.

(1) Ground the workbench
Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

(2) Ground yourself
Use an anti-static wrist strap to release any static electricity built up in your body.



(3) Handling the optical pickup
- In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition.
  (Refer to the text.)
- Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

1.3 Precautions for Service

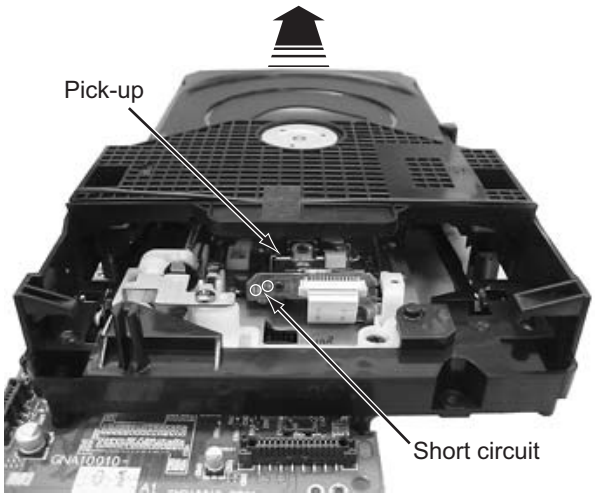
1.3.1 Handling of Traverse Unit and Laser Pickup

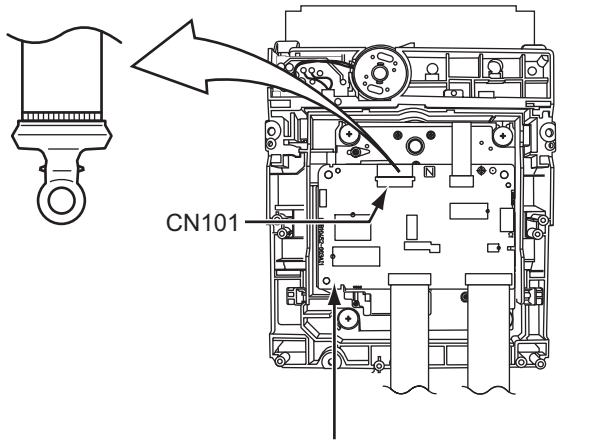
(1) Do not touch any peripheral element of the pickup or the actuator.
(2) The traverse unit and the pickup are precision devices and therefore must not be subjected to strong shock.
(3) Do not use a tester to examine the laser diode. (The diode can easily be destroyed by the internal power supply of the tester.)
(4) To replace the traverse unit, pull out the metal short pin for protection from charging.
(5) When replacing the pickup, after mounting a new pickup, remove the solder on the short land which is provided at the center of the flexible wire to open the circuit.
(6) Half-fixed resistors for laser power adjustment are adjusted in pairs at shipment to match the characteristics of the optical block. Do not change the setting of these half-fixed resistors for laser power adjustment.

1.3.2 Destruction of Traverse Unit and Laser Pickup by Static Electricity

Laser diodes are easily destroyed by static electricity charged on clothingor the human body. Before repairing peripheral elements of the traverse unit or pickup, be sure to take the following electrostatic protection:

(1) Wear an antistatic wrist wrap.
(2) With a conductive sheet or a steel plate on the workbench on which the traverse unit or the pick up is to be repaired, ground the sheet or the plate.
(3) It solders to two short circuit sections on the substrate of a pick-up.
(4) After removing the flexible wire from the connector (CN101), short-circuit the flexible wire by the metal clip.
(5) Short-circuit the laser diode by soldering the land which is provided at the center of the flexible wire for the pickup. After completing the repair, remove the solder to open the circuit.





* Please refer to the SECTION3 DISASSEMBLY method for details.

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

2.1 Different table of feature

The following table indicates main different points between models HR-XVC22UC, HR-XVC23UC, HR-XVC26US, HR-XVC27UC and HR-XVC27US.

	HR-XVC22UC	HR-XVC23UC	HR-XVC26US	HR-XVC27UC	HR-XVC27US
BODY COLOR	BLACK	PURE SILVER	BLACK	PURE SILVER	←
REMOCON COLOR	BLACK	GRAY	BLACK	GRAY	←
A/V CABLE	SUPPLIED	←	OPTIONAL	←	←
RF CONVERTER	NOT USED	←	USED	←	←

NOTE :
Mark ← is same as left.

2.2 Service position

This unit has been designed so that the Mechanism and Main board assemblies can be removed together from the bottom chassis. Before diagnosing or servicing the circuit boards, take out the major parts from the bottom chassis.

2.2.1 How to set the "Service position"

(1) Refer to the disassembly procedure and perform the disassembly of the major parts before removing the Mechanism assembly.
(2) Remove the screws that fix the Mechanism, Main board assembly to the bottom chassis. If any other screws are used to fix the boards, remove them also.
(3) Remove the combined Mechanism and Main board assemblies.
(4) If any other major parts are used, remove them also.
(5) Connect the wires and connectors of the major parts that have been removed in steps (1) to (4). (Refer to Fig. 2-2a.)
(6) Place the combined Mechanism, Main board and other board assemblies upside down.
(7) Insert the power cord plug into the power outlet and then proceed with the diagnostics and servicing of the board assembly.

Notes:

- **Before inserting the power cord plug into the power outlet, make sure that none of the electrical parts are able to short-circuit between the workbench and the board assembly.**
- **For the disassembly procedure of the major parts and details of the precautions to be taken, see "Removing the major parts".**
- **If there are wire connections from the Main board and Mechanism assemblies to the other major parts, be sure to remove them (including wires connected to the major parts) first before performing step (2).**
- **When carrying out diagnosis and repair of the Main board assembly in the "Service position", be sure to ground both the Main board and Mechanism assemblies. If they are improperly grounded, there may be noise on the playback picture or FDP counter display may move even when the mechanism is kept in an inoperative status.**
- **In order to diagnose the playback or recording of the cassette tape, set the Mechanism assembly to the required mode before placing it upside down. If the mechanism mode is changed (including ejection) while it is in an upside down position the tape inside may be damaged.**
- **For some models, the mechanism and board assemblies are attached by connectors only. When carrying out a diagnosis or repair of the boards in the "Service position", make sure that the connectors are not disconnected.**

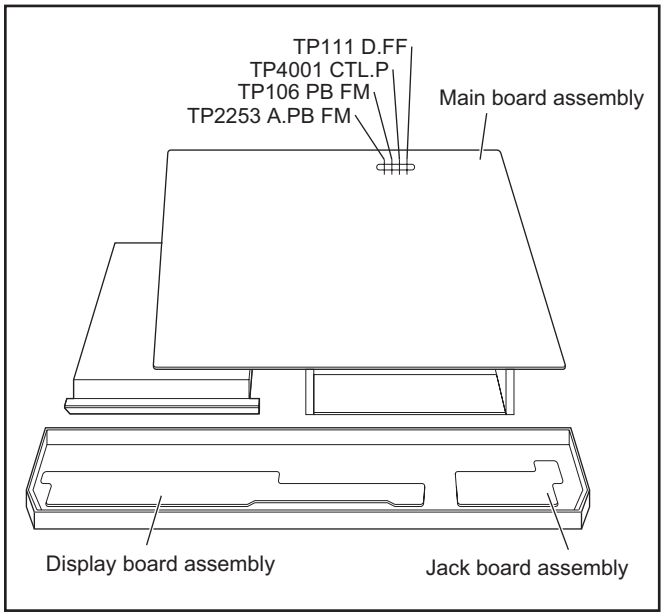


Fig.2-2a

2.3 Jig RCU mode

This unit uses the following two modes for receiving remote control codes.

(1) User RCU mode:Ordinary mode for use by the user.
(2) Jig RCU mode: Mode for use in production and servicing.

When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). As both of the above two modes are stored in the EEPROM, it is required to set the VCR back to the User RCU mode each time that an adjustment is made or to check that the necessary operations have been completed.These modes can be set by the operations described below.

Note:

- **Confirm the RCU mode when exchanged parts. Since some SERVICE PARTS sets the VCR to the Jig RCU**

mode as initial setting. Therefore please set the VCR to the user RCU mode after replacing the EEPROM.

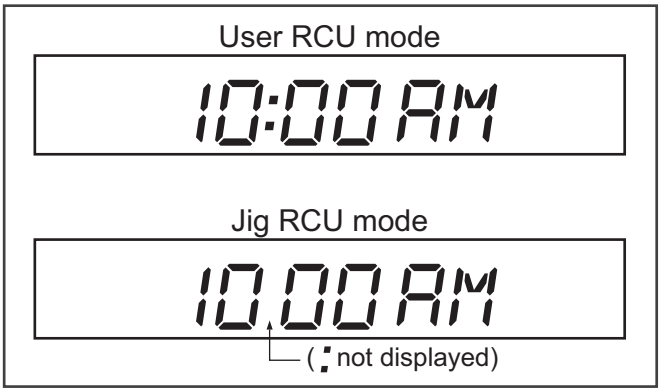


Fig.2-3a User/Jig RCU mode

2.3.1 Setting the Jig RCU mode

(1) Turn on the power.
(2) Press the following remocon keys continuously within 2 seconds " SET UP " → " 2 " → " 8 " → " ENTER ".
When the VCR is set to the Jig RCU mode, the symbols (" : ") in the time display of the FDP are turned off.
(Refer to Fig.2-3a)

2.3.2 Setting the User RCU mode

(1) Turn off the power.
(2) Press the "REC" and "PAUSE" buttons of the VCR simultaneously. Alternatively, transmit the code "80" from the Jig RCU.

2.4 Mechanism service mode

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the "Mechanism service mode".

2.4.1 How to set the "Mechanism service mode"

(1) Set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received)
(2) Transmit the code "E5" from the Jig RCU.
(3) Release the lug of the Cassette holder and then slide the Cassette holder toward the direction where the Cassette holder is loaded by manually.
(4) The cassette holder lowers and, when the loading has completed, the mechanism enters the desired mode.
When the VCR is set to the Mechanism service mode, the symbols ("Timer") in the FDP (LED) are blinked.

2.4.2 How to exit from the "Mechanism service mode"

(1) Unplug the power cord plug from the power outlet.

2.5 Maintenance and inspection

2.5.1 Cleaning

Regular cleaning of the transport system parts is desirable but practically impossible. So make it a rule to carry out cleaning of the tape transport system whenever the machine is serviced.
When the video head, tape guide and/or brush get soiled, the playback picture may appear inferior or at worst disappear, resulting in possible tape damage.

Note:

- **Absolutely avoid sweeping the upper drum vertically as this will cause damage to the video head.**

(1) When cleaning the upper drum (especially the video head), soak a piece of closely woven cloth with alcohol and while holding the cloth onto the upper drum by the fingers, turn the upper drum counterclockwise.
(2) To clean the parts of the tape transport system other than the upper drum, use a piece of closely woven cloth or a cotton swab soaked with alcohol.
(3) After cleaning, make sure that the cleaned parts are completely dry before using the cassette tape.

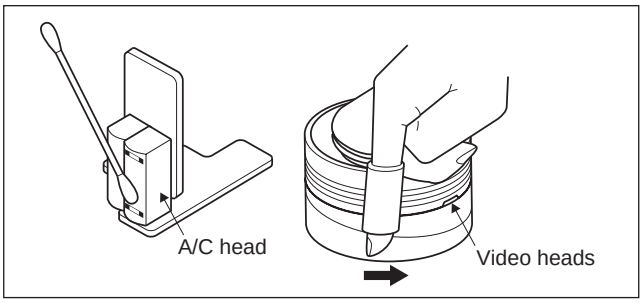


Fig.2-5a

2.5.2 Lubrication

With no need for periodical lubrication, you have only to lubricate new parts after replacement. If any oil or grease on contact parts is soiled, wipe it off and newly lubricate the parts.

Note:

- **See the "mechanism assembly" diagram of the "parts list" for the lubricating or greasing spots, and for the types of oil or grease to be used.**

2.5.3 Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning, lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions. However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time, even if the set is not used.

System	Parts name	Operation hours	
		1000H	2000H
Tape transport	Drum assembly	C,X	X
	A/C head	C,X	C,X
	Pinch roller arm assembly	C	C
	Full erase head	C	C
	Tension arm assembly	C	C
	Capstan motor (Shaft)	C	C
	Guide arm assembly	C	C
Drive	Capstan motor		X
	Capstan brake assembly		X
	Main brake assembly		X
	Belt (Capstan)	X	X
	Loading motor		X
	Clutch unit		X
	Worm gear		X
	Control plate		X
Other	Rotary encoder		X

C : Cleaning
X : Inspection or Replacement if necessary

SECTION 3
DISASSEMBLY

3.1 Removing the major parts

3.1.1 Destination of connectors

Two kinds of double-arrows in connection tables respectively show kinds of connector/wires.

⇔ : Flat wire ↔ : Wire ⬌ : Board to board (B-B)

: The connector of the side to remove

CONN. No.	CONNECTOR					PIN No.
WR2a	Main	CN101	⇔	Digital	CN761	40
WR2b	Main	CN103	⇔	Digital	CN762	10

■ **Destination of connectors**

CONN. No.	CONNECTOR					PIN No.
WR2a	Main	CN7103	⇔	Jack	CN7191	10
WR2b	Main	CN3102	⇔	Display	CN7003	22
WR3a	Main	CN2001	⇔	A/C head		6
WR3b	Drum assembly		⇔	Main	CN1	9
WR4a	Main	CN7302	⇔	DVD servo control	CN503	17
WR4b	Main	CN7301	⇔	DVD servo control	CN501	19
WR4c	Main	CN8301	⇔	DVD servo control	CN1	5

3.1.2 How to read the procedure table

This table shows the steps for disassembly of the externally furnished parts and board assemblies. Reverse these steps when re-assembling them.

Step/ Loc No.	Part Name	Fig. No.	Point	Note
[1]	Top cover	3-1a	4(S1a),(S1b),3(L1a), 2(SD1a),(P1a),(W1a), CN1(WR1a),	<Note 1a>
	Bracket		2(S1c)	

(1) (2) (3) (4) (5)

(1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order.
These numbers are also used as the identification (location) No. of parts Figures.

(2) Part name to be removed or installed.

(3) Fig. No. showing procedure or part location.

(4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P= Spring, W= Washer, S= Screw, L= Locking tab, SD= Solder, CN**(WR**)= Remove the wire (WR**) from the connector (CN**).

Note:
- **The bracketed ( ) WR of the connector symbol are assigned nos. in priority order and do not correspond to those on the spare parts list.**

(5) Adjustment information for installation

3.1.3 Disassembly procedure

Step/ Loc No.	Part Name	Fig. No.	Point	Note
[1]	Top cover	3-1d	8(S1a)	
[2]	Front panel assembly (Display board assembly) (Jack board assembly)	3-1a 3-1d	4(L2a),5(L2b),2(S2a) CN7103(WR2a), CN3102(WR2b)	<Note 2a> <Note 2b>
[3]	Mechanism assembly (Drum assembly)	3-1b 3-1c 3-1d	CN2001(WR3a) 3(S3a),(S3b) CN(WR3b) (S3c),(S3d),(S3e)	<Note 2a> <Note 3a> <Note 3b> <Note 3c>
[4]	DVD unit (Bracket)	3-1d	3(S4a),3(S4b), CN7302(WR4a), CN7301(WR46), CN8301(WR4c)	
[5]	Rear cover	3-1d	5(S5a),5(L5a)	
[6]	Main board assembly	3-1d	3(S6a)	

<Note 2a>
- Be careful not to damage the connector and wire etc. during connection and disconnection.
- When connecting the flat wire to the connector, be careful with the flat wire direction.

<Note 2b>
- When reattaching the Front panel assembly, make sure that the door opener of the Side frame (R) is lowered in position prior to the reinstallation.
- When reattaching the Front panel assembly, pay careful attention to the switch lever of the Front panel assembly not to make it touch the switch knob of the Main board assembly from the side.
- When reattaching the Front panel assembly, lift the Cassette door slightly.

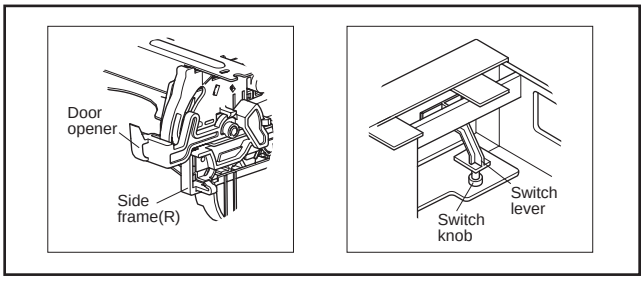


Fig.3-1a

<Note 3a>
- When reattaching the Mechanism assembly, secure the screws (S3a to S3b) in the order of 1,2,3.

<Note 3b>
- When reattaching the Mechanism assembly, be sure to align the phase of the Rotary encoder on the Main board assembly.
- When reattaching the Mechanism assembly, set the “Mechanism assembling mode”. [See “MECHANISM ASSEMBLY SERVICE MANUAL (No. 86700)”.]
- When reattaching the Mechanism assembly to the Main board assembly, take care not to damage the sensors and switch on the Main board assembly.

<Note 3c>

- When reattaching the Drum assembly, secure the screws (S3c to S3e) in the order of c, d, e.

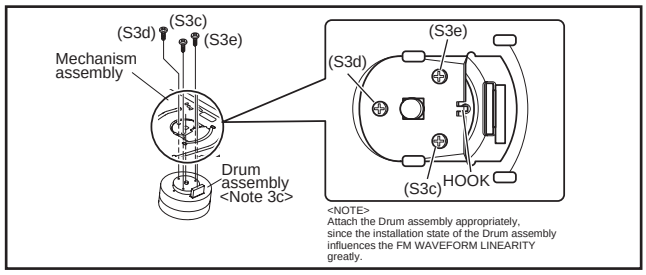


Fig.3-1b

- When handling the drum assembly alone, hold it by the motor or shaft. Be careful not to touch other parts, especially the video heads. Also take care not to damage the connectors.

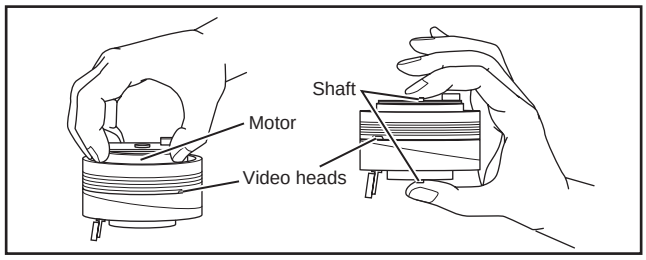
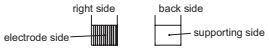


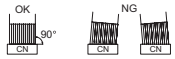
Fig.3-1c

NOTE

1.Insert direction of FFC WIRE as follows.



2.FFC WIRE and DRUM FPC WIRE should be insert as follows.



3.Insert the wire to even the root of connector completely at the same time as inserting each wire.

4.Check to see that outside parts.TOP COVER,BOTTOM COVER, FRONT PANEL, etc are fixed certainly to the BOTTOM CHASSIS with SCRWES.

5.Pay attention NOT to make any scratches on FRONT PANEL.

6.Pay close attention not to cut any Sheath of WIRE by sharp edge of CHASSIS while Wireing Process.

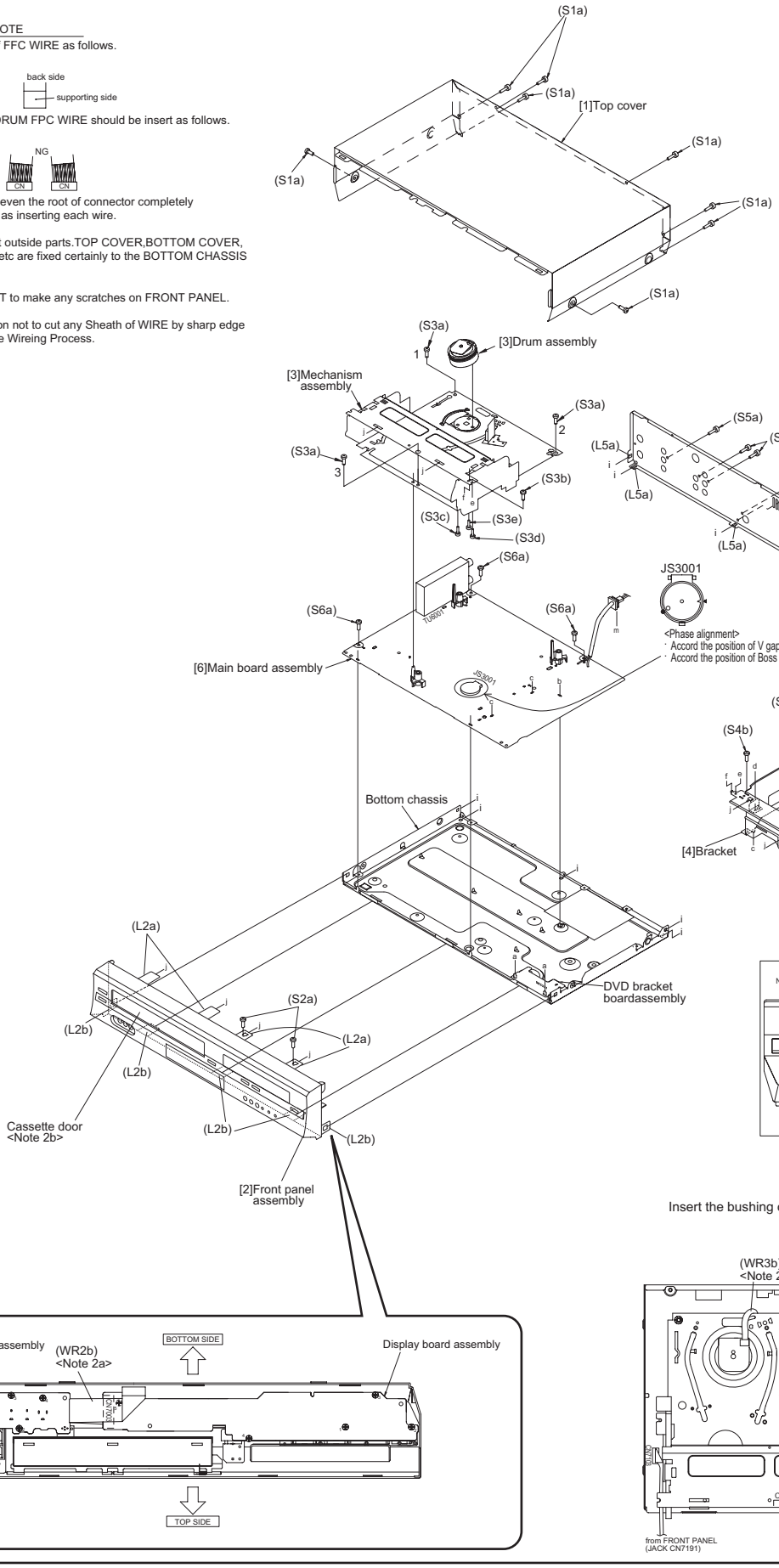


Fig.3-1d

3.2 Loading mechanism assembly

3.2.1 Removing the tray (See Figure 3-2a, Figure 3-2b, Figure 3-2c, Figure 3-2d, Figure 3-2e, Figure 3-2f)

(1) Push **a** of the slide cam on the hole in the right side of the loading base by using a driver until it stops. (See Figure 3-2a.)
(2) The tray comes out. Pull the tray in a front direction until it stops.
(3) Remove the two screws **A** attaching the slide bracket. (See Figure 3-2b.)
(4) Tilt the tray in a direction of the arrow around the point in the left rear part of the tray. (See Figure 3-2c.)
(5) The rail of the tray is removed from **b** of the loading base. Then, remove the tray upward. (See Figure 3-2d.)

Attaching the tray:

Engage **c** of the loading base to the projection of the tray while tilting the tray to the left. Turn the tray in a direction of the arrow, and attach the slide bracket. (See Figure 3-2e.)

Note:

Prior to the procedure above, move the slide cam in a direction of the arrow so that **d** of the slide cam can be inserted in **e** of the tray. (See Figure 3-2f.)

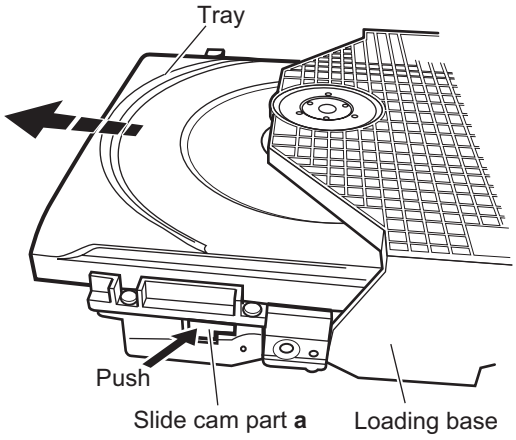


Fig.3-2a

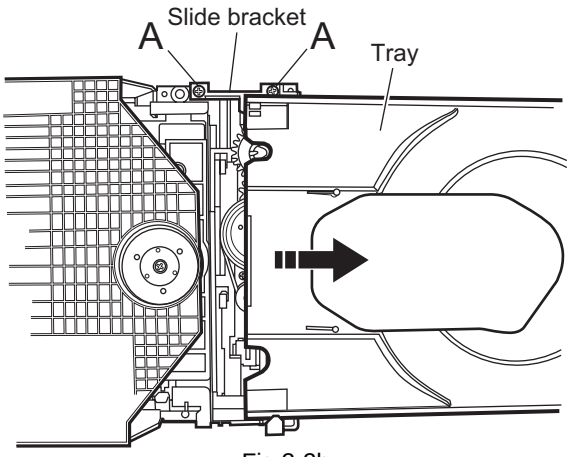


Fig.3-2b

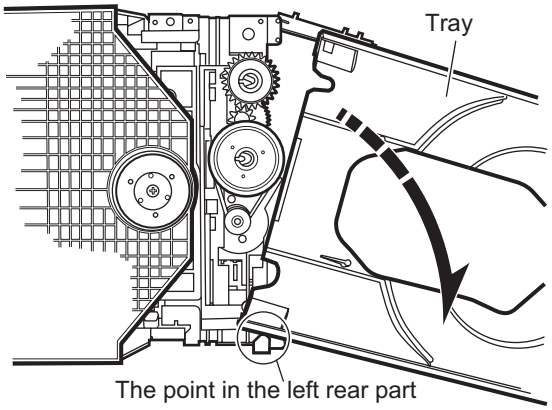


Fig.3-2c

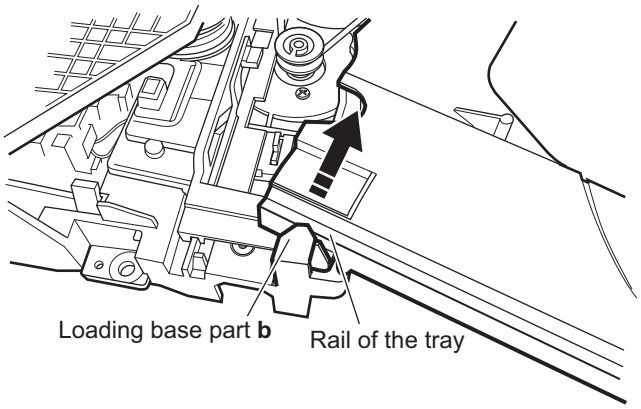


Fig.3-2d

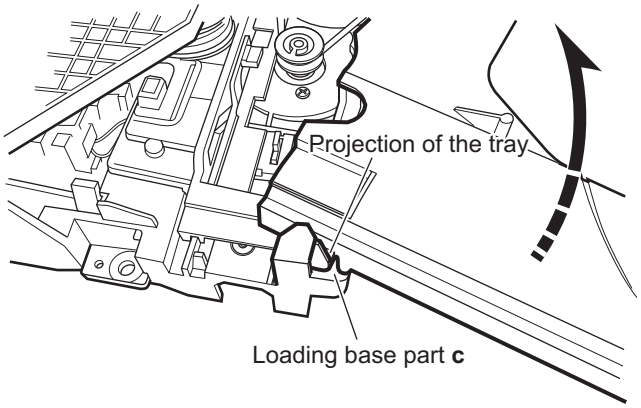


Fig.3-2e

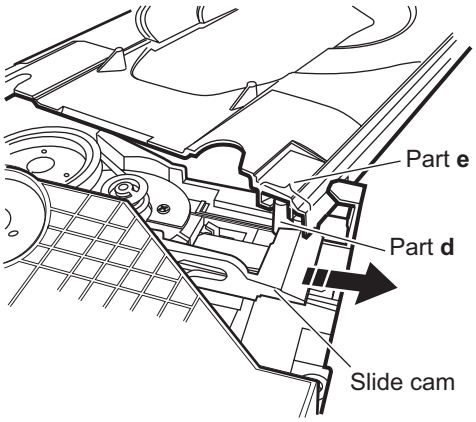


Fig.3-2f

3.2.2 Removing the traverse mechanism assembly (See Figure 3-2g)

Reverse the loading mechanism assembly. Remove the four screws **B** attaching the traverse mechanism assembly. Remove the traverse mechanism assembly upward.

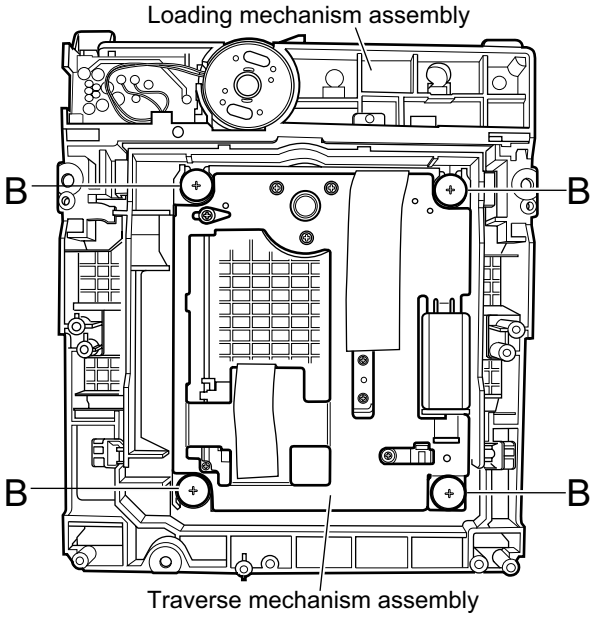


Fig.3-2g

3.2.3 Removing the elevator (See Figure 3-2h and Figure 3-2j)

- Prior to the following procedure, remove the traverse mechanism assembly.
  (1) Remove the two arms of the elevator from the two parts **f** by moving the arms in a direction of the arrow.
  (2) Pull out the elevator in a rear direction.

Attaching the elevator:

Engage the two holes **g** to the two shafts on the front part of the elevator. And then, attach the elevator.

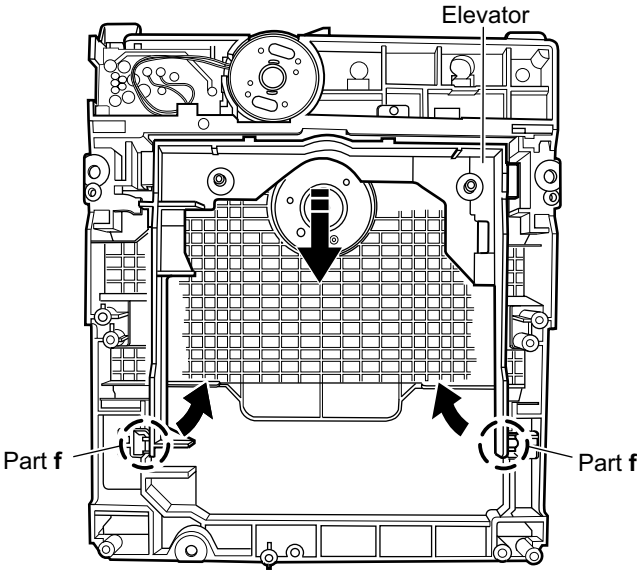


Fig.3-2h

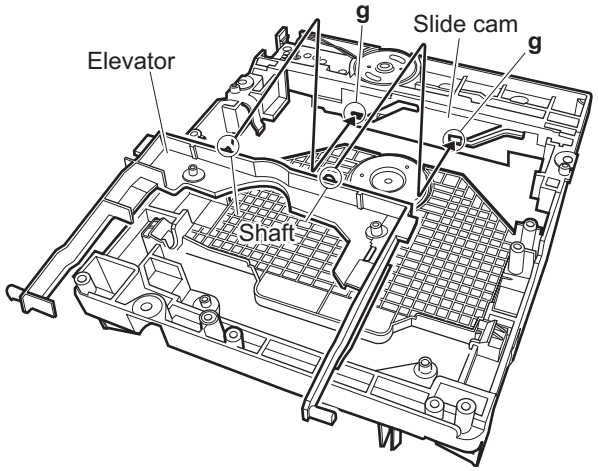


Fig.3-2j

3.2.4 Removing the loading motor (See Figure 3-2k and Figure 3-2l)

- Prior to the following procedure, remove the tray, the traverse mechanism assembly, and the elevator.
  (1) Remove the belt from the pulley.
  (2) Remove two screws **C** attaching the loading motor.
  (3) Remove two solders **h** on the switch board.

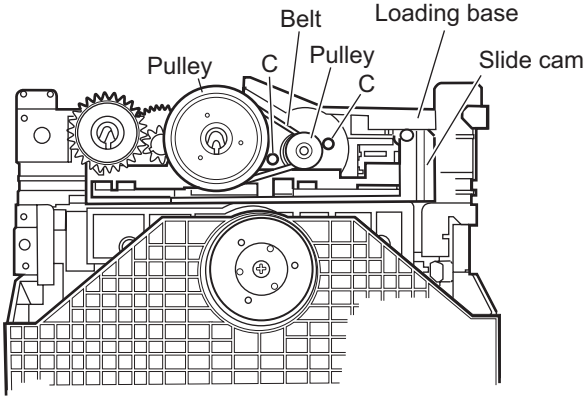


Fig.3-2k

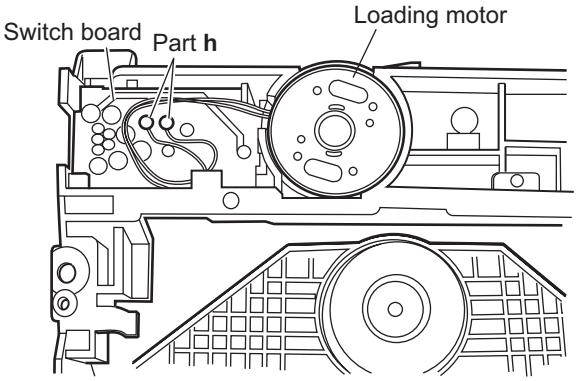


Fig.3-2l

3.3 Traverse mechanism assembly

3.3.1 Removing the pickup (See Figure 3-3a, Figure 3-3b)

- Prior to the following procedure, remove the traverse mechanism assembly.
  (1) Remove one screw **D** attaching the plate.
  (2) Remove the plate and the leaf spring.
  (3) Lift **i** of the shaft **1**, and pull out the shaft **1** from **j**.
  (4) Remove **k** of the pickup from the shaft **2**.

Attaching the pickup:

(1) Engage **k** of the pickup to the shaft **2**.
(2) Insert the shaft **1** in **j**, and attach the shaft 1 to **i**.
(3) Attach the leaf spring, and then attach the plate. Fix the leaf spring and the plate by using the screw **D**.

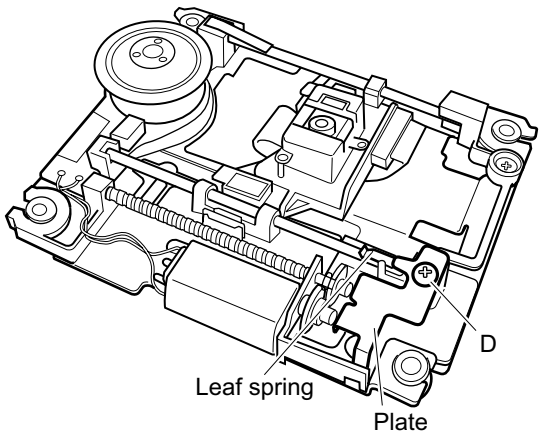


Fig.3-3a

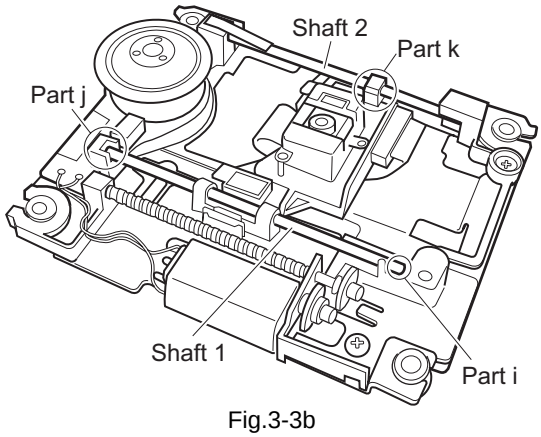


Fig.3-3b

SECTION 4
ADJUSTMENT

4.1 Before adjustment

4.1.1 Precaution

- **The adjustments of this unit include the mechanism compatibility and electrical adjustments. During the performance of this work, be sure to observe the precautions for each type of adjustment.**
- **If there is a reference to a signal input method in the signal column of the adjustment chart, "Ext. S-input" means the Y/C separated video signal and "Ext. input" means the composite video signal input.**
- **Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.**

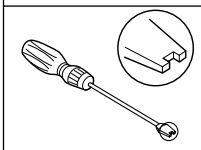
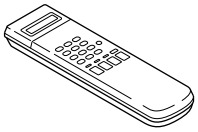
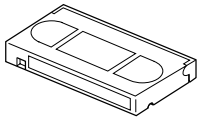
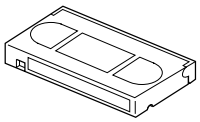
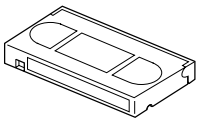
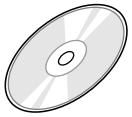
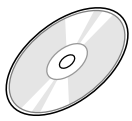
4.1.2 Required test equipments

- Color (colour) television or monitor
- Oscilloscope: wide-band, dual-trace, triggered delayed sweep
- Signal generator: RF / IF sweep / marker
- Signal generator: stairstep, color (colour) bar [NTSC]
- Recording tape
- Digit-key remote controller(provided)

4.1.3 Required adjustment tools

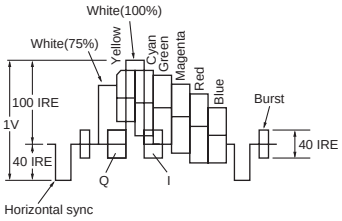
● : Used --- : Not used

	Mechanism compatibility adjustment	Electrical adjustment
Roller driver	●	---
Jig RCU	---	●
Back tension cassette gauge	●	---
Alignment tape(MHP)	●	---
Alignment tape(MHP-L)	●	●

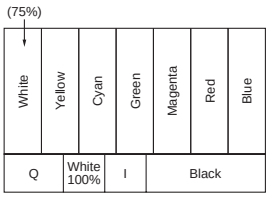
Roller driver PTU94002	Jig RCU PTU94023B	Back tension cassette gauge PUJ48076-2
		
Alignment tape (SP, stairstep, NTSC) MHP	Alignment tape (EP, stairstep, NTSC) MHP-L	DVD test disc VT-501
		
CD-DA test disc CTS-1000		
		

4.1.4 Color (colour) bar signal,Color (colour) bar pattern

• Color(colour) bar signal [NTSC]



• Color(colour) bar pattern [NTSC]



4.1.5 Switch settings

When adjusting this unit, set the VCR mode and switches as described below.

- When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). (See "section 2 SPECIFIC SERVICE INSTRUCTIONS".)

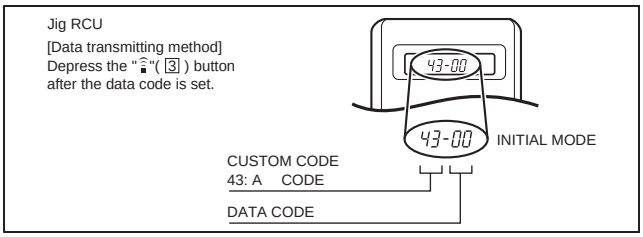


Fig.4-1 Jig RCU [PTU94023B]

- Set the switches as shown below unless otherwise specified on the relevant adjustment chart. The switches that are not listed below can be set as desired.
  If the VCR is not equipped with the functions detailed below, setup is not required.

AUTO PICTURE/VIDEO CALIBRATION/ B.E.S.T./D.S.P.C.	OFF
PICTURE CONTROL/SMART PICTURE	NORMAL/NATURAL
VIDEO STABILIZER	OFF
TBC	ON
Digital 3R	ON
VIDEO NAVIGATION/TAPE MANAGER	OFF
BLUE BACK	OFF

4.1.6 Manual tracking mode (Auto tracking ON/OFF) setting

(1) In order to set to the manual tracking mode during tape playback, press the "SP/EP(LP)"button on the remote control unit.
  - Each press of the button switches the auto tracking ON or OFF.
  - When the manual tracking mode is set, the tracking is placed at the center position.

(2) Press "channel +/-" to adjust the tracking manually.

4.2 Mechanism compatibility adjustment (VHS SECTION)

Notes:

- **Although compatibility adjustment is very important, it is not necessary to perform this as part of the normal servicing work. It will be required when you have replaced the A/C head, drum assembly or any part of the tape transport system.**
- **To prevent damaging the alignment tape in the compatibility adjustment, prepare a cassette tape (for self-recording/playback), perform a test on it by transporting it and making sure that the tape is not bent by the tape transport mechanisms such as in the guide rollers.(See Fig.4-2b.)**

4.2.1 Tension pole position

Notes:

- **This adjustment must be performed every time the tension band is replaced.**

Signal	(A)	• Back tension cassette gauge [PUJ48076-2]
Mode	(B1) (B2)	• PB • Eject end
Adjustment part	(F)	• Adjust pin [Mechansim assembly]
Specified value	(G)	• 25 - 51 gf•cm (2.45 - 5 x 10^{-3} Nm)

(1) Play back the back tension cassette gauge (A).
(2) Check that the indicated value on the left side gauge is within the specified value (G).
(3) If the indicated value is not within the specified value (G), perform the adjustment in a following procedure.(See Fig.4-2a.)
   a) Remove the top frame, cassette holder and side frames (L/R) all together. (Refer to the SERVICE MANUAL No.86700 [MECHANISM ASSEMBLY].)
   b) Rotate the loading motor gear to move the control plate so that the triangular stamping to the left of the “P”stamping is aligned with the stamping (a) on the main deck. This positioning is mode (B1).
   c) Adjust by turning the adjustment pin so that the tip of the tension arm is aligned with the stamping (b) on the main deck.
   d) Rotate the reel disk (S) by about one turn clockwise and make sure that the round hole of the adjustment pin is located in the “OK” range. If it is outside this range, restart the adjustment from the beginning.

   After completion of the adjustment, rotate the loading gear motor to return it to the mode (B2) position.

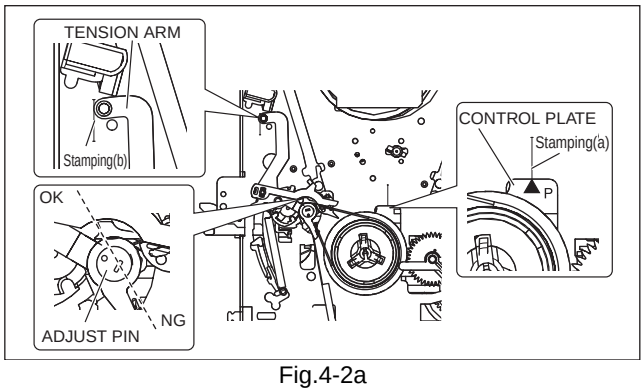


Fig.4-2a

4.2.2 FM waveform linearity

Signal	(A1) (A2)	• Alignment tape(SP, stairstep, NTSC) [MHP] • Alignment tape(EP,stairstep,NTSC) [MHP-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Guide roller [Mechanism assembly]
Specified value	(G)	• Flat V.PB FM waveform
Adjustment tool	(H)	• Roller driver [PTU94002]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Set the VCR to the manual tracking mode.
(4) Make sure that there is no significant level drop of the V.PB FM waveform caused by the tracking operation, with its generally parallel and linear variation ensured. Perform the following adjustments when required. (See Fig. 4-2c.)
(5) Reduce the V.PB FM waveform by the tracking operation. If a drop in level is found on the left side, turn the guide roller of the pole base assembly (supply side) with the roller driver to make the V.PB FM waveform linear.
   If a drop in level is on the right side, likewise turn the guide roller of the pole base assembly (take-up side) with the roller driver to make it linear. (See Fig. 4-2c.)
(6) Make sure that the V.PB FM waveform varies in parallel and linearly with the tracking operation again. When required, perform fine-adjustment of the guide roller of the pole base assembly (supply or take-up side).
(7) Unload the cassette tape once, play back the alignment tape (A1) again and confirm the V.PB FM waveform.
(8) After adjustment, confirm that the tape wrinkling does not occur at the roller upper or lower limits. (See Fig. 4-2b.) [Perform adjustment step (9) only for the models equipped with SP mode and EP (or LP) mode.]

   [Perform adjustment step (9) only for the models equipped with SP mode and EP (or LP) mode.]
(9) Repeat steps (1) to (8) by using the alignment tape (A2).

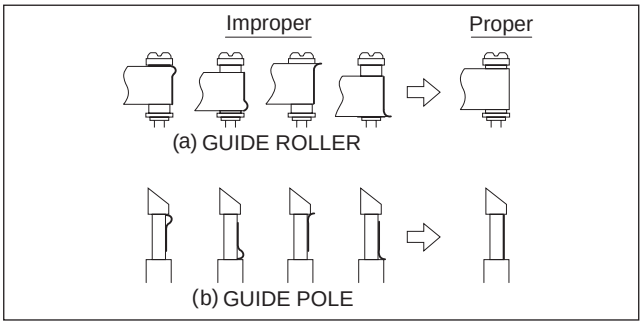


Fig.4-2b

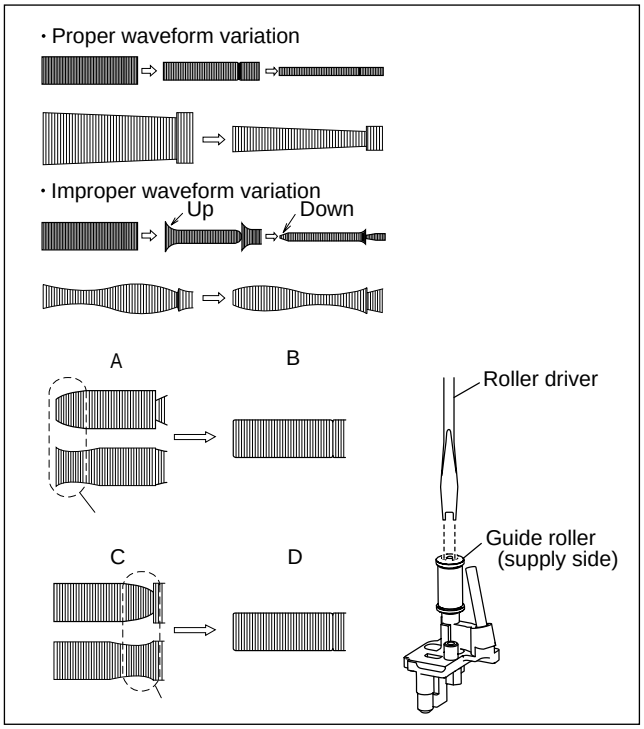


Fig.4-2c

4.2.3 Height and tilt of the A/C head

Note:

- **Set a temporary level of the height of the A/C head in advance to make the adjustment easier after the A/C head has been replaced. (Refer to the SERVICE MANUAL No.86700 [MECHANISM ASSEMBLY].)**

Signal	(A)	• Alignment tape(SP, stairstep, NTSC) [MHP]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• TP106 (PB. FM) • TP4001 (CTL. P)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head [Mechanism assembly]
Specified value	(G)	• Maximum waveform

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E), to observe the AUDIO OUT waveform and Control pulse waveform at the measuring points (D1) and (D2) in the ALT mode.
(3) Set the VCR to the manual tracking mode.
(4) Adjust the AUDIO OUT waveform and Control pulse waveform by turning the screws (1), (2) and (3) little by little until both waveforms reach maximum. The screw (1) and (3) are for adjustment of tilt and the screw (2) for azimuth.

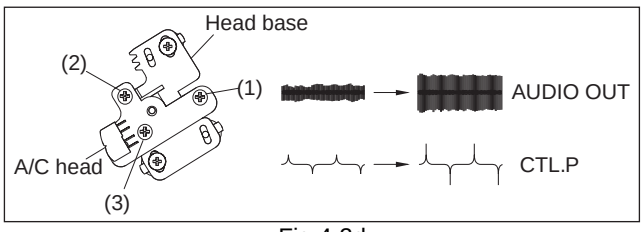


Fig.4-2d

4.2.4 A/C head phase (X-value)

Signal	(A1) (A2)	• Alignment tape(SP, stairstep, NTSC) [MHP] • Alignment tape(EP,stairstep,NTSC) [MHP-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head base [Mechanism assembly]
Specified value	(G)	• Flat V.PB FM waveform
Adjustment tool	(H)	• Roller driver [PTU94002]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Set the VCR to the manual tracking mode.
(4) Loosen the screws (4) and (5), then set the Roller driver to the innermost projected part of the A/C head. (See Fig. 4-2e.)
(5) Rotate the roller driver so that the A/C head comes closest to the capstan. From there, move the A/C head back gradually toward the drum until the point where the FM waveform is maximized for the second time, and then tighten the screws (4) and (5) temporarily.
(6) Play an alignment tape (A2) and set to the manual-tracking mode.
(7) Fine-adjust A/C head base position to maximize the FM waveform, and then tighten the screws (4) and (5) firmly.
(8) Play alignment tapes (A1) and (A2) and confirm that the FM waveforms are maximized when the tracking is at the center position.

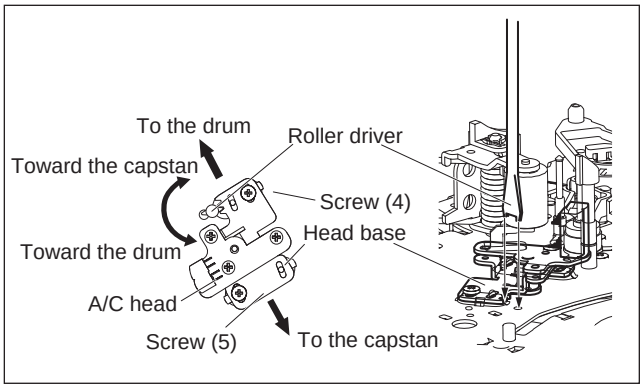


Fig.4-2e

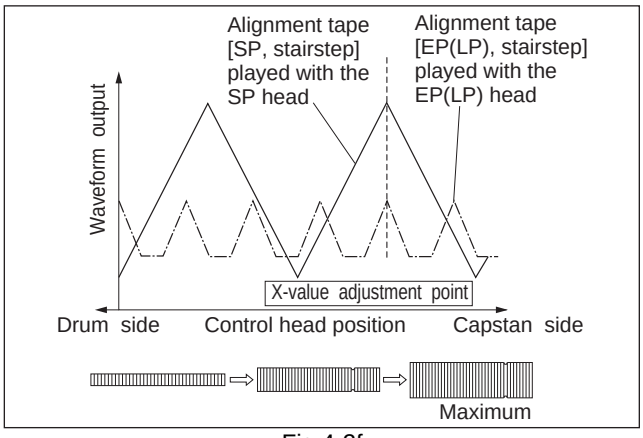


Fig.4-2f

4.3 Electrical adjustment (VHS SECTION)

Note:

The following adjustment procedures are not only necessary after replacement of consumable mechanical parts or board assemblies, but are also provided as references to be referred to when servicing the electrical circuitry.

In case of trouble with the electrical circuitry, always begin a service by identifying the defective points by using the measuring instruments as described in the following electrical adjustment procedures. After this, proceed to the repair, replacement and/or adjustment. If the required measuring instruments are not available in the field, do not change the adjustment parts (variable resistor, etc.) carelessly.

4.3.1 Servo circuit

4.3.1.1 Switching point

Signal	(A1) (A2)	• Stairstep signal • Alignment tape(EP,stairstep,NTSC) [MHP-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• VIDEO OUT terminal (75 ohm terminated) • TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Jig RCU: Code “5A”
Specified value	(G)	• 6.5 ± 0.5H
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Play back the signal (A1) of the alignment tape (A2).
(2) Apply the external trigger signal to D.FF (E) to observe the VIDEO OUT waveform and V.PB FM waveform at the measuring points (D1) and (D2).
(3) Set the VCR to the manual tracking mode.
(4) Adjust tracking so that the V.PB FM waveform becomes maximum.
(5) Set the VCR to the Auto adjust mode by transmitting the code (F) from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed.
(6) If the VCR enters the eject mode, repeat steps (1) to (5) again.
(7) Play back the alignment tape (A2) again, confirm that the switching point is the specified value (G).

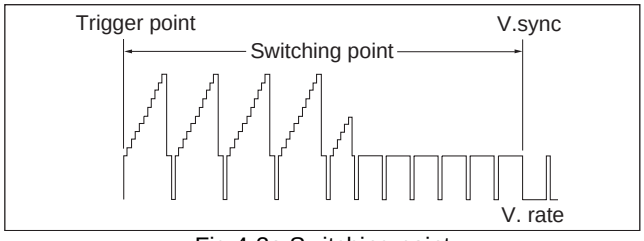


Fig.4-3a Switching point

4.3.1.2 Slow tracking preset

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [NTSC]
Mode	(B1) (B2)	• VHS SP • VHS EP
Measuring point	(D)	• TV-Monitor
Adjustment part	(F)	• Jig RCU: Code “71”or “72”
Specified value	(G)	• minimum noise
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Record the signal (A2) in the mode (B1), and play back the recorded signal.
(2) Set the VCR to the manual tracking mode.
(3) Set the VCR to the FWD slow (+1/6x) mode.
(4) Transmit the code (F) from the Jig RCU to adjust so that the noise bar becomes the specified value (G) on the TV monitor in the slow mode.
(5) Set the VCR to the Stop mode.
(6) Confirm that the noise bar is (G) on the TV monitor in the slow mode.
(7) Repeat steps (3) to (6) in the REV slow (+1/6x) mode.
(8) Repeat steps (1) to (7) in the mode (B2).

Note:

- **For FWD slow (+1/6x) playback, transmit the code “08” from the Jig RCU to enter the slow playback mode, and transmit the code “D0”for REV slow (-1/6x) mode.**

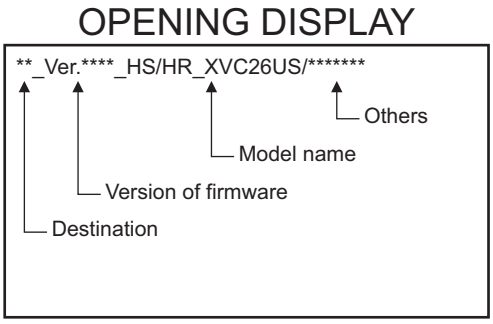
4.4 Electrical adjustment (DVD SECTION)

4.4.1 Test mode setting method

(1) Press POWER button to turn off the unit.
(2) Press the following remocon keys continuously within 2seconds " SET UP " → " 2 " → " 8 " → " ENTER ".
(3) The unit becomes JIG RCU mode.
(4) Press POWER button then press VCR/DVD repeatedly so that the DVD indicatorlights up.
(5) Press the POWER button again to turn off the unit.
(6) Transmit the code " FA " from the Jig RCU.
(7) The power supply of the unit turns on automatically then the FDP shows the region number.
(8) To release test mode, press POWER key of the front panel.

4.4.2 Method of displayed version of firmware

(1) Set the unit to the test mode.
(2) The version number is displayed in the monitor screen.



4.4.3 Initialization method

Please initialize according to the following procedures in the following case:

- Just after you upgrade the firmware.
- After you confirm the symptoms that a customer points out. First Initialize, and then confirm whether the symptoms are improved or not.
- After servicing, before returning the main body to a customer. (Initialized unit should be returned to a customer.)

(1) Set the unit to the test mode.
(2) Press PAUSE key of the remote controller or transmit the code "6F" from the Jig RCU.
(3) When initialization is completed, the PLAY (▸). mark is indicated in the FDP.

4.4.4 All-initialization method

Please perform all-initialization according to the following procedures in the following case:

- Just after you exchange the pick-up.
- Just after you exchange the spindle motor.
- Just after you exchange the traverse mechanism base.

NOTE:
Please perform all-initialization when you exchange the parts above and also when you remove the parts above.

(1) Set the unit to the test mode.
(2) Press the REVERSE SKIP/INDEX (⏮) key of the remote controller for more than 2 seconds.
(3) When initialization is completed, the PLAY (▸). mark is indicated in the FDP.

NOTE:
After all-initialization, be sure to perform optimization adjustment of Front End parameter.

4.4.5 Optimization adjustment of Front End parameter

Adjustment to optimize Front End parameter must be performed in each mechanism assembly of this model for high-speed starting.Please perform optimization according to the following procedures just after all-initialization is completed and when FDP shows anything except "0" (For example when FDP shows "1", "2", and "3") at test mode.

(1) Set the unit to the test mode.
(2) The FDP shows the region number first.
(3) Press the DISPLAY key of the remote controller and check that FDP shows the number.
(4) Press the DISPLAY key again to return the region number.

NOTE:

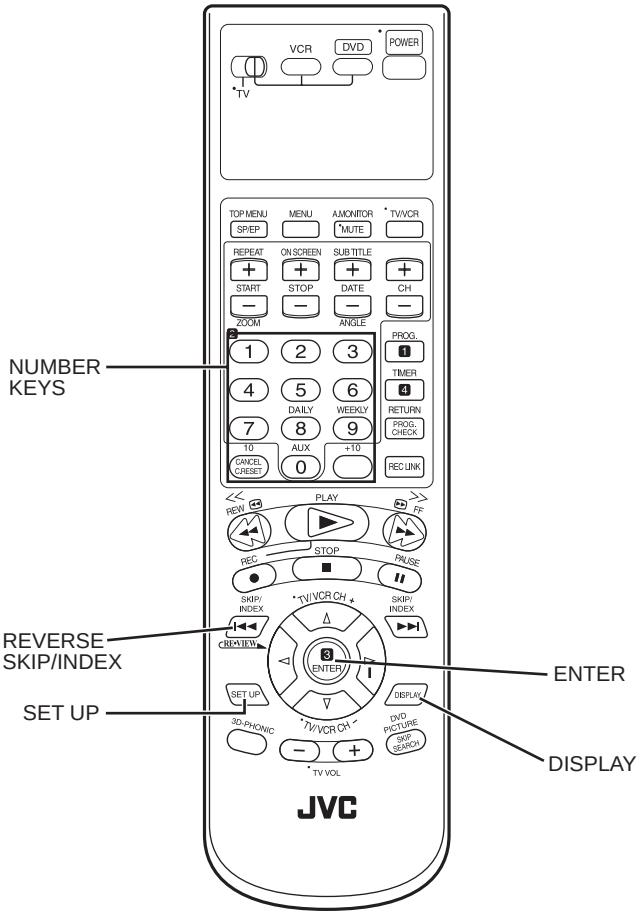
Status of this adjustment can be judged by the number displayed at test mode as follows:

DVD adjustment	CD adjustment	FDP at test mode
Adjusted	Adjusted	0
Not adjusted	Adjusted	1
Adjusted	Not adjusted	2
Not adjusted	Not adjusted	3

NOTE:

As for a disc used for adjustment,

- Disc should be mounted. ("Mounting" means to display "READ" after the disc is inserted and then display the disc information.) Disc need not be played.
- If you do not have test disc either VT-501 (DVD) or CTS-1000 (CD-DA), use a commercial disc (for DVD, dual-layer software) after seeing and checking that the disc is neither curved nor foreseen that it may shake at the time of playback.If you use a disc with bad features, starting time may be slow or disc may not be read.



SECTION 5
TROUBLESHOOTING

5.1 Manually removing the cassette tape

If you cannot remove the cassette tape which is loaded because of any electrical or mechanical failures, manually remove it by taking the following steps.

(1) Unplug the power cord plug from the power outlet.

(2) Refer to the disassembly procedure of the VCR and perform the disassembly of the major parts before removing the mechanism assembly. (See Fig. 5-1a)

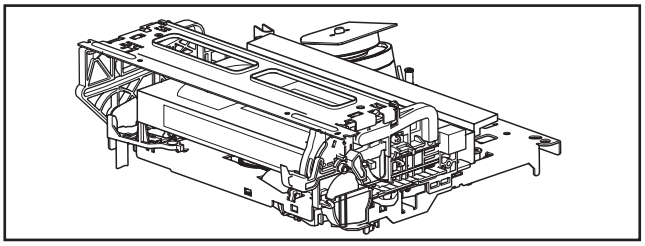


Fig.5-1a

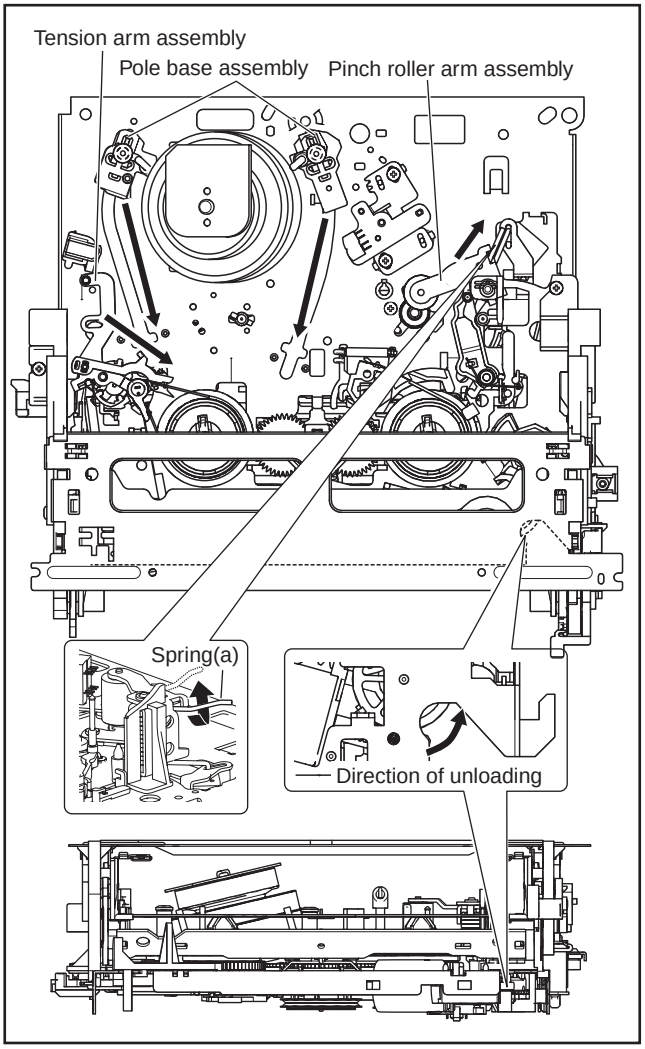


Fig.5-1b

(3) Unload the pole base assembly by manually turning the gear of the loading motor until the pole base assembly is hidden behind the cassette lid. In doing so, hold the tape by the hand to keep the slack away from any grease. (See Fig.5-1b)

In case of mechanical failures, while keeping the tension arm assembly free from tension, pull out the tape on the pole base assembly. Take the spring(a) of the pinch roller arm assembly off the hook, and detach it from the tape.

(4) Remove the screw (a) of the side frame (L/R).

(5) Hold the slack tape and cassette cover together, lift the cassette tape, top frame, cassette holder and side frames (L, R) together from the rear and remove them by dis-engaging the hooks (a) and (b).

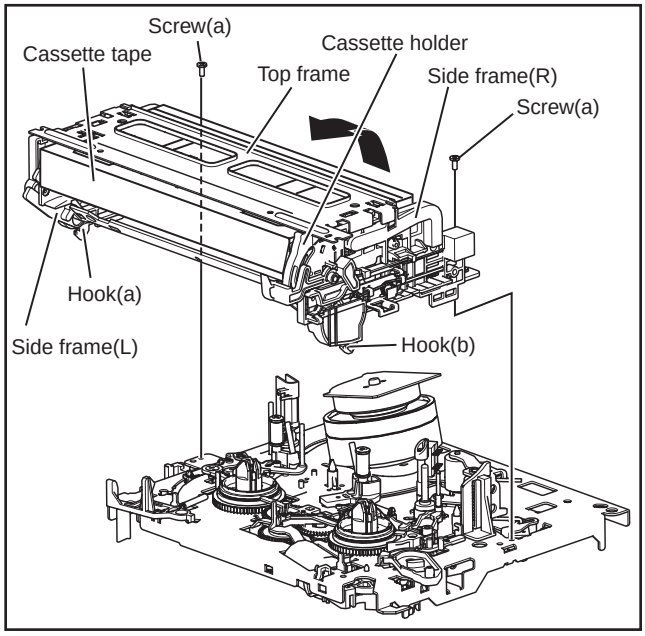


Fig.5-1c

(6) Take up the slack of the tape into the cassette. This completes removal of the cassette tape.

5.2 Manually removing the disk(DVD/CD)

If you cannot remove the disk which is loaded because of any electrical or mechanical failures, manually remove it by taking the following steps.

(1) Unplug the power cord plug from the power outlet.

(2) Remove the top cover and front panel assembly.
(Refer to the disassembly procedure and perform the disassembly of the major parts before removing)

(3) Turn the Middle gear (a) by hand to open the disk tray.(See Fig. 5-2a)

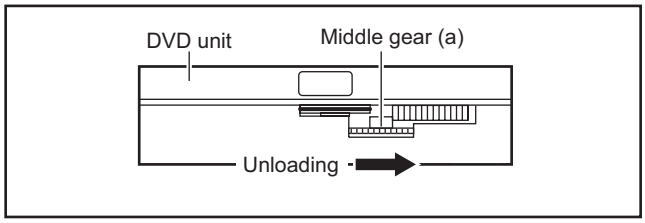


Fig.5-2a

5.3 Emergency display function (VHS SECTION)

This unit saves details of the last two emergencies as the EMG history and allows the status of the VCR and the mechanism of each emergency to be shown both on the display and as OSD information.
When using the emergency function, it is required to set the VCR to the Jig RCU mode.

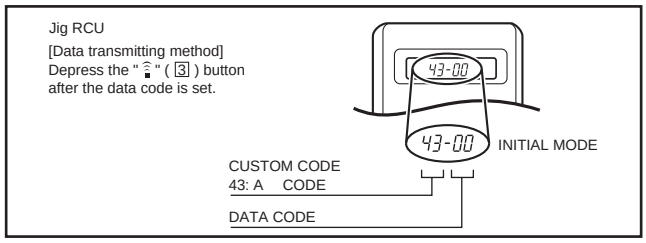


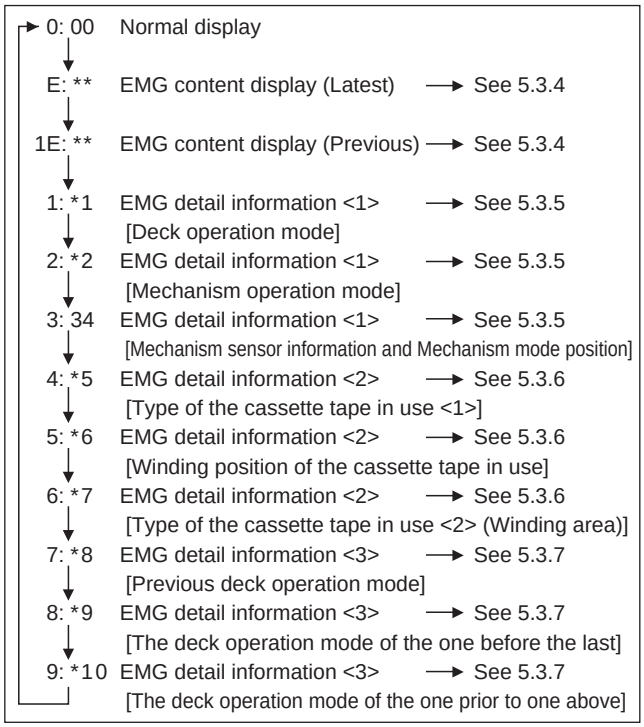
Fig.5-3a Jig RCU [PTU94023B]

5.3.1 Displaying the EMG information

The EMG detail of information can be displayed by transmitting the code "59" from the Jig RCU.

Note:

- **The EMG detail information <1><2> show the information on the latest EMG.**
  It becomes " - - : - - : - - " when there is no latest EMG record.


0: 00 Normal display
E: ** EMG content display (Latest) → See 5.3.4
1E: ** EMG content display (Previous) → See 5.3.4
1: *1 EMG detail information <1> → See 5.3.5
[Deck operation mode]
2: *2 EMG detail information <1> → See 5.3.5
[Mechanism operation mode]
3: 34 EMG detail information <1> → See 5.3.5
[Mechanism sensor information and Mechanism mode position]
4: *5 EMG detail information <2> → See 5.3.6
[Type of the cassette tape in use <1>]
5: *6 EMG detail information <2> → See 5.3.6
[Winding position of the cassette tape in use]
6: *7 EMG detail information <2> → See 5.3.6
[Type of the cassette tape in use <2> (Winding area)]
7: *8 EMG detail information <3> → See 5.3.7
[Previous deck operation mode]
8: *9 EMG detail information <3> → See 5.3.7
[The deck operation mode of the one before the last]
9: *10 EMG detail information <3> → See 5.3.7
[The deck operation mode of the one prior to one above]

EMG display of 7 FDP display model
Fig.5-3b

EMG display of FDP display mode

(1) Transmit the code "59" from the Jig RCU.
The FDP shows the EMG content in the form of "E:**:**".

<Example 1> E : 01 ← Latest EMG

<Example 2> E : - - ← No EMG record

(2) Transmit the code "59" from the Jig RCU again.
The FDP shows the EMG detail information <1> in the form of " *1: *2 : 34 ".

*1 : Deck operation mode at the moment of EMG
*2 : Mechanism operation mode at the moment of EMG
3- : Mechanism sensor information at the moment of EMG
-4 : Mechanism mode position at the moment of EMG

(3) Transmit the code "59" from the Jig RCU once again.
The FDP shows the EMG detail information <2> in the form of " *5 : *6 : *7 ".

*5 : Type of the cassette tape in use <1> .
*6 : Winding position of the cassette tape in use
*7 : Type of the cassette tape in use <2> (Winding area)

(4) Transmit the code "59" from the Jig RCU once again.
The FDP shows the EMG detail information <3> in the form of "*8 : *9 : *10".

*8 : Previous deck operation mode at the moment of EMG
*9 : The deck operation mode of the one before the last at the moment of EMG
*10: The deck operation mode of the one prior to one above at the moment of EMG

(5) Transmit the code "59" from the Jig RCU once again to reset the display.

5.3.2 Clearing the EMG history

(1) Display the EMG history.
(2) Transmit the code “36” from the Jig RCU.
(3) Reset the EMG display.

5.3.3 Details of the OSD display in the EMG display mode

During the EMG display, the OSD shows the data on the deck mode, etc. The details of the display contents are as follows.

Notes:

- **The display is variable depending on the part No. of the System Control microcomputer (IC3001) built into the VCR. In the following, refer to the figure carrying the same two characters as the top two characters of the part number of your IC.**
- **The sensor information in the OSD display contents is partially different from the mechanism sensor information in EMG detail information <1>.**

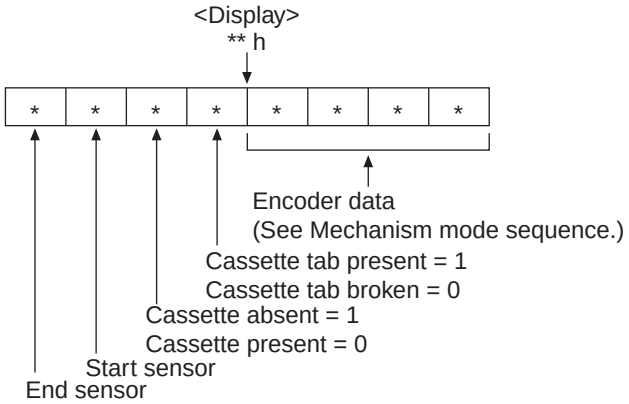
[For MN* only]

AA	BB	CC	DD	EE
FF	GG	HH	I I	J J
KK	L L	MM	NN	OO
PP	QQ	RR	SS	TT
UU	VV	WW	XX	YY

AA : Deck operation mode (See EMG detail information <1>.)
BB : Mechanism operation mode (See EMG detail of information <1>.)
CC : Mechanism transition flag
DD : Capstan motor control status
EE : Loading motor control status
FF : Sensor information (See sensor information details.)
GG : Capstan motor speed
HH : Key code (JVC code)
I I : Supply reel winding diameter data higher 8 bits.
JJ : Supply reel winding diameter data lower 8 bits.
KK : Mechanism sensor information & mechanism mode position(See EMG detail of information <1>.)
LL : Tape speed data higher 8 bits.
MM : Tape speed data lower 8 bits.
NN : Cassette tape type <2> higher 8 bits. (See EMG detail of information <2>.)
OO : Cassette tape type <2> lower 8 bits. (See EMG detail of information <2>.)
PP : General data display area

YY : General data display area

***FF:Sensor information details**

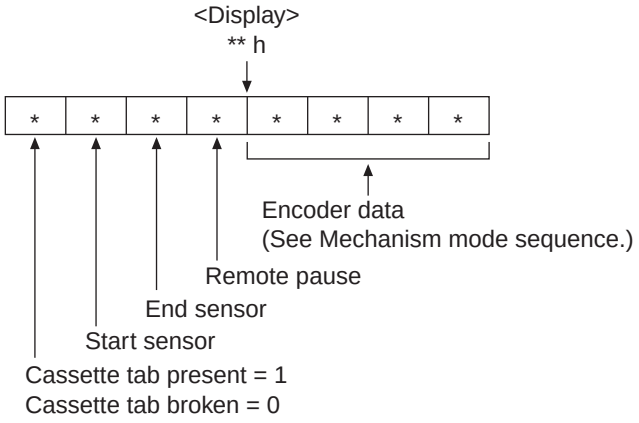


[For *HD only]

AA	BB	CC
DD	EE	FF
GGGG	HHHH	
I I	J J J J	
KKKK	L L L L	MMMM
ROM No.		

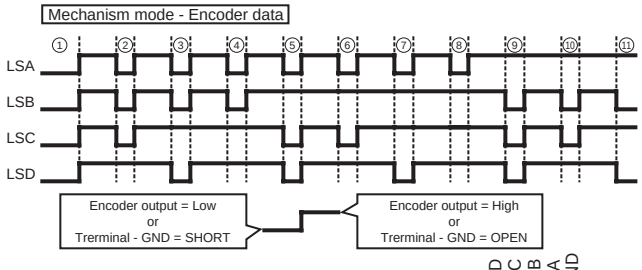
AA : Key code (JVC code)
BB : Deck operation mode(See EMG detail information <1>.)
CC : Mechanism operation mode (See EMG detail information <1>.)
DD : Sensor information (See sensor information details.)
EE : Capstan motor speed (Search, double speed)
FF : Tracking value
GGGG : Cassette tape type <2>, 16 bits. (See EMG detail information <2>.)
HHHH : Supply reel winding diameter data
I I : Capstan motor speed (FF/REW, double speed)
JJJJ : Tape speed data, lower 8 bits.
KKKK : General data display area
LLLL : General data display area
MMMM : General data display area

***DD:Sensor information details**

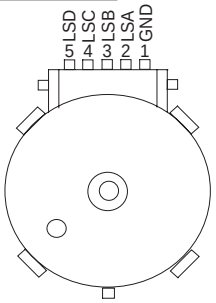


[For both MN*/HD*]

Mechanism mode sequence


Mechanism mode - Encoder data
LSA
LSB
LSC
LSD
Encoder output = Low or Trerminal - GND = SHORT
Encoder output = High or Trerminal - GND = OPEN

No.	Position	Encoder data
①	EJECT	0 h = 0000
②	EJECT1	1 h = 0001
③	EJECT2	2 h = 0010
④	ULSTOP	3 h = 0011
⑤	UPPER	4 h = 0100
⑥	ONSTOP(PLAY)	5 h = 0101
⑦	FWD/SS	6 h = 0110
⑧	REV/SS	7 h = 0111
⑨	OFFSTOP	8 h = 1000
⑩	FFREW-BRAKE	9 h = 1001
⑪	FFREW	A h = 1010
⑫	MIDDLE	F h = 1111



5.3.4 EMG content description

Note:

EMG contents “E09” are for the model with Dynamic Drum (DD).

FDP	CONTENT	CAUSE
E01: Loading EMG	If the mechanism mode does not change to the next mode within 4 seconds after the loading motor starts rotating in the loading direction, while the mechanism is in the after-loading position (with the tape up against the pole base), [E:01] is identified and the power is switched OFF. However, if the tape loading is not completed within 4 seconds after the loading motor starts rotating in the loading direction, the tape is simply unloaded and ejected. No EMG data is recorded in this case.	1. The mechanism is locked in the middle of the mode transition during a tape loading operation. 2. The mechanism overruns during the tape loading operation because the SYSCON cannot recognize the mechanism mode normally. This problem is due to a cause such as a rotary encoder failure. 3. Power is not supplied to the loading MDA. (M12V/Vcc/Vref/ICP are disconnected in the middle.)
E02: Unloading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the unloading direction, [E:02] is identified and the power is turned off.	1. The mechanism is locked in the middle of mode transition. 2. Without an eject signal being sent from the SYSCON, unloading is attempted (i.e. Ejection is attempted while the tape is still inside the mechanism.) because the SYSCON cannot recognize the mechanism mode normally. This is due to a cause such as a rotary encoder failure. (Mechanism position: UPPER) 3. Power is not supplied to the loading MDA. (M12V/Vcc/Vref/ICP are disconnected in the middle.)
E03: Take Up Reel Pulse EMG	When the falling edje of the take-up reel pulse has not been generated for more than 4 seconds in the capstan rotating mode, [E:03] is identified, the pinch rollers are turned off and stopped, and the power is turned off. In this case, however, the mechanism should be in position after tape loading. Note that the reel EMG is not detected during Slow/Frame advance operations.	1. The take-up reel pulse is not generated in the FWD transport modes (PLAY/FWD SEARCH/FF, etc.) because; 1) The idler gear is not meshed with the take-up reel gear because the mechanism mal-functions for some reason. 2) The idler gear is meshed with the take-up reel gear, but incapable of winding due to too large mechanical load (abnormal tension); 3) The reel is rotating normally but an FG pulse is not generated due to the take-up reel sensor failure. 2. The supply reel pulse is not generated in the REV transport modes (REV SEARCH/REW, etc.) because; 1) The idler gear is not meshed with the supply reel gear because the mechanism mal-functions for some reason. 2) The idler gear is meshed with the supply reel gear, but incapable of winding due to too large a mechanical load (abnormal tension); 3) The reel rotates normally but the FG pulse is not generated due to a supply reel sensor failure. 3. Power(SW5V) is not supplied to the reel sensor on the tape winding side.
E04: Drum FG EMG	When the drum FG pulse has not been input for more than 3 seconds in the drum rotating mode, [E:04] is identified, the pinch rollers are turned off and stopped, and the power is turned off.	1. The drum could not start or the drum rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high; 2) The tape is damaged or a foreign object (grease, etc.) adheres to the tape. 2. The drum FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (hall device) of the drum is faulty. 3. The drum control voltage (DRUM CTL V) is not supplied to the MDA. 4. Power (M12V) is not supplied to the drum MDA.
E05: Cassette Eject EMG	If the cassette does not reach the eject position within about 0.7 seconds after the cassette housing has started the cassette ejection operation, [E:05] is identified, the drive direction is reversed to load the tape, the mode is switched to STOP mode with the pinch roller OFF, and the power is switched OFF. During the cassette insertion process, the drive direction is reversed and the cassette is ejected if the tape is not up against the pole base within about 3 seconds after the start of the cassette pulling-in operation. If the cassette does not reach the eject position within about 0.7 seconds after the drive mode reversal operation, [E:05] is identified and the power is switched OFF immediately.	1. The cassette cannot be ejected due to a failure in the drive mechanism of the housing. 2. When the housing load increases during ejection, the loading motor is stopped because of lack of headroom in its drive torque. Housing load increasing factors: Temperature environment (low temperature, etc.), mechanism wear or failure. 3. The sensor/switch for detecting the end of ejection are not functioning normally. 4. The loading motor drive voltage is lower than specified or power (M12V) is not supplied to the motor (MDA). 5. When the user attempted to eject a cassette, a foreign object (or perhaps the user's hand) was caught in the opening of the housing.
E06: Capstan FG EMG	When the capstan FG pulse has not been generated for more than 1 second in the capstan rotating mode, [E:06] is identified, the pinch rollers are turned off and stopped, and the power is turned off.However, the capstan EMG is not detected in SLOW/STILL modes. Note that, if the part number of the System Control IC begins with "MN" or "M3", the capstan EMG is not detected even during the FF/REW operation.	1. The capstan could not start or the capstan rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high (mechanical lock); 2) The tape is damaged or a foreign object (grease, etc.) is adhered to the tape (occurrence of tape entangling, etc.). 2. The capstan FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (MR device) of the capstans is faulty. 3. The capstan control voltage (CAPSTAN CTL V) is not supplied to the MDA. 4. Power (M12V, SW5V) are not supplied to the capstan MDA.
E07: SW Power Short-Circuit EMG	When short-circuiting of the SW power supply with GND has lasted for 0.5 second or more, [E:07] is identified, all the motors are stopped and the power is turned off.	1. The SW 5 V power supply circuit is shorted with GND. 2. The SW 12 V power supply circuit is shorted with GND.
E08: DVD EMG	When communication with a system computer of VHS side is not carried out because of the defective DVD unit, or when the DVD unit must be reset	1. The DVD unit is defective. 2. Contact failure of the wires in the DVD unit or VHS side.
E09: DD FG EMG	When the DD FG pulse is not generated within 2.5 seconds, [E:09] is identified, the tilt motor is stopped and the power is turned off.	1. The FG sensor is defective. (The soldered parts have separated.) 2. The pull-up resistor at the FG sensor output is defective. (The soldered parts have separated.) 3. Contact failure or soldering failure of the pins of the connector (board-to-board) to the FG sensor. 4. The power (5V) to the sensor is not supplied. (Connection failure/soldering failure) 5. The FG pulse is not sent to the System Controller CPU. 6. The tilt motor is defective. (The soldered parts have separated.) 7. The drive power to the tilt motor is not supplied. (Connection failure/soldering failure) 8. The tilt motor drive MDA - IC is defective. 9. Auto-recovery of the DD tilting cannot take place due to overrun.
E0A: Supply Reel Pulse EMG	When the falling edge of the supply reel pulse has not been generated for more than 10 seconds in the capstan rotating mode, [E:0A] is identified and the cassette is ejected (but the power is not turned off). In this case, however, the mechanism should be in the position after tape loading (with the tape up against the pole base). Also note that the reel EMG is not detected during Slow/Frame advance operations.	1. The supply reel pulse is not generated in the FWD transport mode (PLAY/FWD SEARCH/FF, etc.) because; 1) PLAY/FWD or SEARCH/FF is started while the tape in the inserted cassette is cut in the middle; 2) A mechanical factor caused tape slack inside and outside the supply reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the FWD transport, so the pulse is not generated until then; 3) The reel is rotating normally but the FG pulse is not generated due to a supply reel sensor failure. 2. The take-up reel pulse is not generated in the REV transport mode (REV SEARCH/REW, etc.). 1) REV SEARCH/REW is started when the tape in the inserted cassette has been cut in the middle; 2) A mechanical factor caused tape slack inside and outside the take-up reel side of the cassette shell. In this case, the take up will not rotate until the tape slack is removed by the REV transport, so the pulse will not be generated until that time; 3) The reel is rotating normally but the FG pulse is not generated due to a take-up reel sensor failure. 3. The power (SW 5V) to a reel sensor is not supplied.
EU1: Head clog warning history	Presupposing the presence of the control pulse output in the PLAY mode, when the value obtained by mixing the two V.FM output channels (without regard to the A.FM output) has remained below a certain threshold level for more than 10 seconds, [E:U1] is identified and recorded in the emergency history. During the period in which the head clog is detected, the FDP shows "U:01" and the OSD repeats the "3 seconds of warning display" and the "7 seconds of noise picture display" alternately. EMG code : "E:C1" or "E:U1" / FDP : "U:01" / OSD : "Try cleaning tape." or "Use cleaning cassette." The head clog warning is reset when the above-mentioned threshold has been exceeded for more than 2 seconds or the mode is changed to another mode than PLAY.	

5.3.5 EMG detail information <1>

The status (electrical operation mode) of the VCR and the status (mechanism operation mode/sensor information) of the mechanism in the latest EMG can be confirmed based on the figure in EMG detail information <1> .

[FDP/OSD display] *1 : *2 : 34

*1 : Deck operation mode at the moment of EMG
*2 : Mechanism operation mode at the moment of EMG
3- : Mechanism sensor information at the moment of EMG
-4 : Mechanism mode position at the moment of EMG

Note:

- **For EMG detailed information <1>, the content of the code that is shown on the display (or OSD) differs depending on the parts number of the system control microprocessor (IC3001) of the VCR. The system control microprocessor parts number starts with two letters, refer these to the corresponding table.**

***1 : Deck operation mode**

[Common table of MN* and HD]

Display		Deck operation mode
MN*	HD*	
00	-	Mechanism being initialized
01	00	STOP with pinch roller pressure off (or tape present with P.OFF)
02	01	STOP with pinch roller pressure on
03	-	POWER OFF as a result of EMG
04	04	PLAY (Normal playback)
0C	0E	REC
10	11	Cassette ejected
20	22	FF
21	-	Tape fully loaded, START sensor ON, short FF
22	-	Cassette identification FWD SEARCH before transition to FF (SPx7-speed)
24	26	FWD SEARCH (variable speed) including x2-speed
2C	2E	INSERT REC
40	43	REW
42	-	Cassette identification REV SEARCH before transition to REW (SPx7-speed)
44	47	REV SEARCH (variable speed)
4C	4C	AUDIO DUB
6C	6E	INSERT REC (VIDEO + AUDIO)
84	84	FWD STILL / SLOW
85	85	REV STILL / SLOW
8C	8F	REC PAUSE
8D	-	Back spacing
8E	-	Forward spacing (FWD transport mode with BEST function)
AC	AF	INSERT REC PAUSE
AD	-	INSERT REC back spacing
CC	CD	AUDIO DUB PAUSE
CD	-	AUDIO DUB back spacing
EC	EF	INSERT REC (VIDEO + AUDIO) PAUSE
ED	-	INSERT REC (VIDEO + AUDIO) back spacing

***2 : Mechanism operation mode**

[Table of MN*]

Display	Mechanism operation mode
00	Command standby (No command to be executed)
01	Immediate Power OFF after EMG occurrence
02	Loading from an intermediate position during mechanism initialization
03	Unloading due to EMG occurrence during mechanism initialization
04	Ejecting cassette (ULSTOP to EJECT)
05	Inserting cassette (EJECT to ULSTOP)
06	Loading tape (ULSTOP to PLAY)
07	Unloading tape (PLAY to ULSTOP)
08	Transition from pinch roller ON to STOP
09	Transition from pinch roller OFF to STOP (PLAY to OFFSTOP)
0A	Transition from pinch roller OFF to STOP at power OFF
0B	Transition from pinch roller ON to STOP at power ON
0C	Transition to PLAY
0D	Transition to Search FF
0E	Transition to REC
0F	Transition to FWD STILL/SLOW
10	Transition to REV STILL/SLOW
11	Transition to Search REV
12	Transition from FF/REW to STOP
13	Transition to FF
14	Transition to REW
15	Tape end detection processing during loading
16	Short FWD/REV at tape sensor ON during unloading
17	Transition to FF/REW brake mode

[Table of HD*]

Display	Mechanism operation mode
00	STOP with pinch roller pressure off
01	STOP with pinch roller pressure on
02	U/L STOP (or tape being loaded)
04	PLAY (Normal playback)
05	PLAY (x1-speed playback using JOG)
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH (variable speed) including x2-speed
2E	INSERT REC
43	REW
47	REV SEARCH
4C	AUDIO DUB
6E	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
C7	REV SEARCH (x1-speed reverse playback using JOG)
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO + AUDIO) PAUSE
F0	Mechanism being initialized
F1	POWER OFF as a result of EMG
F2	Cassette being inserted
F3	Cassette being ejected
F4	Transition from STOP with pinch roller pressure on to STOP with pinch roller pressure off
F5	Transition from STOP with pinch roller pressure on to PLAY
F6	Transition from STOP with pinch roller pressure on to REC
F7	Cassette type detection SEARCH before FF/REW is being executed
F8	Tape being unloaded
F9	Transition from STOP with pinch roller pressure off to STOP with pinch roller pressure on
FA	Transition from STOP with pinch roller pressure off to FF/REW
FB	Transition from STOP with pinch roller pressure off to REC.P (T.REC,etc.)
FC	Transition from STOP with pinch roller pressure off to cassette type detection SEARCH
FD	Short REV being executed after END sensor on during unloading
FE	Tension loosening being executed after tape loading (STOP with pinch roller pressure on)
FF	Tape being unloaded

3- : Mechanism sensor information

[Common table of MN* and HD*]

Display	Mechanism sensor informatio n			
	REC safety SW	Start sensor	End sensor	Mechansim position sensor
0-	Tab broken	ON	ON	ON
1-	Tab broken	ON	ON	OFF
2-	Tab broken	ON	OFF	ON
3-	Tab broken	ON	OFF	OFF
4-	Tab present	OFF	ON	ON
5-	Tab present	OFF	ON	OFF
6-	Tab present	OFF	OFF	ON
7-	Tab present	OFF	OFF	OFF
8-	Tab broken	ON	ON	ON
9-	Tab broken	ON	ON	OFF
A-	Tab broken	ON	OFF	ON
B-	Tab broken	ON	OFF	OFF
C-	Tab present	OFF	ON	ON
D-	Tab present	OFF	ON	OFF
E-	Tab present	OFF	OFF	ON
F-	Tab present	OFF	OFF	OFF

Tab broken = 0 Sensor ON = 0 Sensor ON = 0
Tab present = 1 sensor OFF = 1 Sensor OFF = 1

-4 : Mechanism mode position

[Common table of MN* and HD*]

Mechanism sensor information	Dis-play	Deck operation mode	
Even number (0, 2, 4, 6, 8, A, C, E)	-0	Not established	
	-1	EJECT	EJECT position
	-2	EJECT-EJECT1	Intermodal position
	-3	EJECT1	EJECT1 position
	-4	EJECT1-EJECT2	Intermodal position
	-5	EJECT2	EJECT2 position
	-6	EJECT2-ULSTOP	Intermodal position
	-7	ULSTOP	ULSTOP position
	-8	ULSTOP-UPPER	Intermodal position
	-9	UPPER	Loading (unloading) tape
	-A	UPPER-ONSTOP	Intermodal position
	-B	ONSTOP	PLAY position
	-C	PLAY-FWD/SS	Intermodal position
	-D	FWD/SS	FWD (FWD Still/Slow) position
	-E	FWD/SS-REV	Intermodal position
	-F	REV	REV (REV Still/Slow) position
Odd number (1, 3, 5, 7, 9, B, D, F)	-0	REV-OFFSTOP	Intermodal position
	-1	OFFSTOP	Pinch roller OFF position
	-2	OFFSTOP-FFREWB	Intermodal position
	-3	FFREWB	FF/REW Brake position
	-4	FFREWB-FFREW	Intermodal position
	-5	FFREW	FF/REW position

5.3.6 EMG detail information <2>

The type of the cassette tape and the cassette tape winding position can be confirmed based on the figure in EMG detail information <2> .

Note:

- **EMG detail information <2> is the reference information stored using the remaining tape detection function of the cassette tape. As a result, it may not identify cassette correctly when a special cassette tape is used or when the tape has variable thickness.**

***5 : Cassette tape type <1>**

Display	Cassette tape type <1>
00	Cassette type not identified
16	Large reel/small reel (T-0 to T-15/T-130 to T-210) not classified
82	Small reel, thick tape (T-120) identified/thin tape (T-140) identified
84	Large reel (T-0 to T-60) identified
92	Small reel, thick tape (T-130) identified/thin tape (T-160 to T-210) identified
93	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) not classified
C3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
D3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
E1	C cassette, thick tape (TC-10 to TC-20) identified
E2	Small reel, thick tape (T-0 to T-100) identified
E9	C cassette, thin tape (TC-30 to TC-40) identified
F1	C cassette, thick tape/thin tape (TC-10 to TC-40) not classified

Notes:

- **Cassette tape type <1> is identified a few times during mode transition and the identification count is variable depending on the cassette tape type. If an EMG occurs in the middle of identification, the cassette tape type may not be able to be identified.**
- **If other value than those listed in the above table is displayed, the cassette tape type is not identified.**

***6 : Cassette tape winding position**

The cassette tape winding position at the moment of EMG is displayed by dividing the entire tape (from the beginning to the end) in 21 sections using a hex number from “00” to “14”.

00 : End of winding
14 : Beginning of winding
FF : Tape position not identified

***7 : Cassette tape type <2> (Winding area)**

Display	Cassette tape type <2>		(Reference) Word data (Beginning) (End)
00	Cassette type not identified		
04 - 08	C cassette, thick tape	TC-10	(0497 - 0506) (0732 - 0858)
05 - 06	Small reel, thick tape	T-20	(05A9 - 0661)
05 - 0C	C cassette, thick tape	TC-20P	(0599 - 05FF) (0AA1 - 0C07)
06 - 0C	C cassette, thin tape	TC-40	(0623 - 063D) (0C41 - 0CC3)
06 - 0C	C cassette, thin tape	TC-30	(0611 - 0638) (0C0C - 0CB2)
07 - 08	Small reel, thick tape	T-40	(07CC - 08E5)
09 - 0B	Small reel, thick tape	T-60	(09FD - 0B78)
0C - 0D	Small reel, thick tape	T-80(DF-160)	(0C20 - 0DFC)
0D - 0F	Small reel, thick tape	T-90(DF-180)	(0D31 - 0F3E)
0E - 10	Small reel, thick tape	T-100	(0E43 - 107F)
10 - 12	Small reel, thin tape	T-140	(10E1 - 120C)
10 - 13	Small reel, thick tape	T-120(DF-240)	(1073 - 1313)
11 - 14	Small reel, thick tape	T-130	(1185 - 1429)
12 - 14	Small reel, thin tape	T-160	(12D3 - 141F)
13 - 14	Small reel, thin tape	T-210(DF-420)	(1373 - 14C3)
13 - 14	Small reel, thin tape	T-180(DF-360)	(1357 - 14C0)
13 - 14	Small reel, thin tape	T-168	(1395 - 14EE)
13 - 14	Small reel, thick tape	DF-300	(13A8 - 14CE)
15 - 16	Large reel	T-20	(1536 - 1618)
16 - 17	Large reel	T-30	(1647 - 175A)
17 - 18	Large reel	T-40	(1759 - 189C)
19 - 1B	Large reel	T-60	(1989 - 1B2F)

Note:

- **The values of cassette tape type <2> in the above table are typical values with representative cassette tapes.**

5.3.7 EMG detail information <3>

Three deck operation modes preceding the deck operation mode in which the EMG occurs may be confirmed based on the figures in the EMG information detail <3>. For the contents of the displayed information, see the table "Deck operation mode" in section "5.3.5 EMG detail information <1>".

5.4 Check points for each error (DVD SECTION)

5.4.1 Spindle start error

(1) Defective spindle motor driver (IC201)

- Has motor drive voltage of a sine wave or a rectangular wave gone out to each terminal(WOUT,VOUT,UOUT) of CN201"2,3,4" and IC201"17,18,19"?
- Is FG pulse output from the terminal of IC201"41"(FG) according to the rotation of the motor?

(2) Has the control signal come from servo IC or the microcomputer?

- Is it "H" while the terminal of IC201"48"(/SPMUTE) is operating?

(3) Is the FG signal input to the servo IC?

- Is FG pulse input to the terminal of IC301"72"(FG) according to the rotation of the motor?

5.4.2 Disc Detection, Distinction error (no disc, no RFENV)

- Laser is defective.
- SODC is defective (IC301).
- APC circuit is defective. --- Q102,Q104.
- Pattern is defective. --- Lines for CN101 - All patterns which relate to pick-up and patterns between IC301.

5.4.3 Traverse movement NG

(1) Defective traverse driver

- Has the voltage come between terminal of CN101 "2" and "4" ?

(2) Defective BTL driver (IC201)

- Has the motor drive voltage gone out to IC201"11" or "14"?

(3) TRSDRV Is the signal input? (IC301 "75")

(4) TRVSW is the signal input from microcomputer? (IC301 "79")

5.4.4 Focus ON NG

- Is FODRV signal sent ? (R254) --- Pattern, IC301 "148"
- Is driving voltage sent ? IC201 "9", "10" --- If NG, pattern, driver, mechanical unit .
- Mechanical unit is defective.

5.4.5 Tracking ON NG

- Mechanical unit is defective.
  Because the self adjustment cannot be normally adjusted, the thing which cannot be normally drawn in is thought.
- Periphery of driver (IC201)
  Constant or IC it self is defective.
- Servo IC (IC301)
  When improperly adjusted due to defective IC.

5.4.6 Spindle CLV NG

- Does not the input or the output of driver's spindle signal do the grip?
- Has the tracking been turned on?
- Spindle motor and driver is defective.

5.4.7 Address read NG

- Besides, the undermentioned cause is thought though specific of the cause is difficult because various factors are thought.
  Mechanism is defective. (jitter)
  IC301
  The disc is dirty or the wound has adhered.

5.4.8 Between layers jump NG (double-layer disc only)

Mechanism defective
Defect of driver's IC(IC201)
Defect of servo control IC(IC301)

5.4.9 Neither picture nor sound is output

(1) It is not possible search

- Has the tracking been turned on?
- To " Tracking ON NG" in "Check points for each error" when the tracking is not normal.
- Is the feed operation normal?
  To " traverse movement NG" in "Check points for each error" when it is not normal.Are not there caught of the feeding mechanism etc?

5.4.10 Picture is distorted or abnormal sound occurs at intervals of several seconds.

Is the feed operation normal?
Are not there caught of the feeding mechanism etc?

5.4.11 Others

- The image is sometimes blocked, and the image stops.
- The image is blocked when going to outer though it is normal in suroundings in the disk and the stopping sympton increases.

There is a possibility with bad jitter value for such a symptom.

5.4.12 CD During normal playback operation

(1) Is TOC reading normal?

- Displays total time for CD-DA.
- Shifts to double-speed mode for V-CD

(2) Is playback afterwards possible?

(3) When can not do a normal playback

- --:-- is displayed during FL search.
  According to [It is not possible to search] for DVD, check the feed and tracking systems.
- No sound is output although the time is displayed.(CA-DA)
  DAC, etc, other than servo.
- The passage of time is not stable, or picture is abnormal.(V-CD)
- The wound of the disc and dirt are confirmed.

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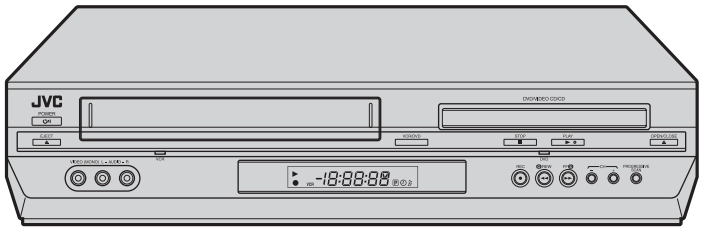

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2004/3

CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in µF, (P: PF).
3) All inductance values are in µH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

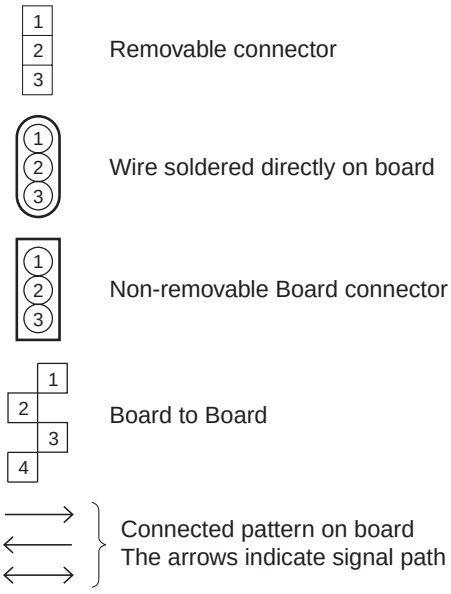
Note: The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

2. Indications of control voltage

AUX : Active at high.

$\overline{AUX}$ or AUX(L) : Active at low.

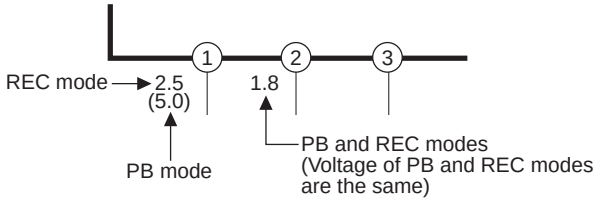
3. Interpreting Connector indications



Note: For the destination of each signal and further line connections that are cut off from the diagram, refer to "BOARD INTERCONNECTIONS"

4. Voltage measurement

1) Regulator (DC/DC CONV) circuits
   REC : Colour bar signal.
   PB : Alignment tape (Colour bar).
   — : Unmeasurable or unnecessary to measure.
2) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.

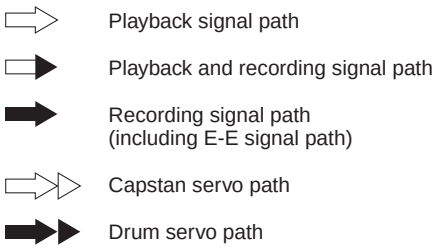


Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

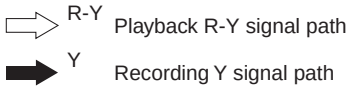
5. Signal path Symbols

The arrows indicate the signal path as follows.

NOTE : The arrow is DVC unique object.

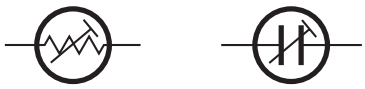


(Example)



6. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



7. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.

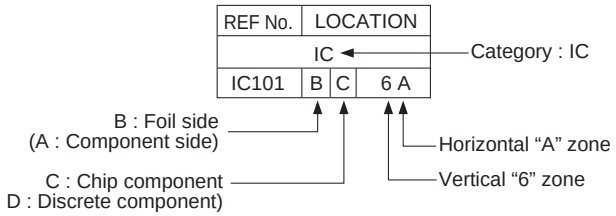
CIRCUIT BOARD NOTES

1. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) indicated.

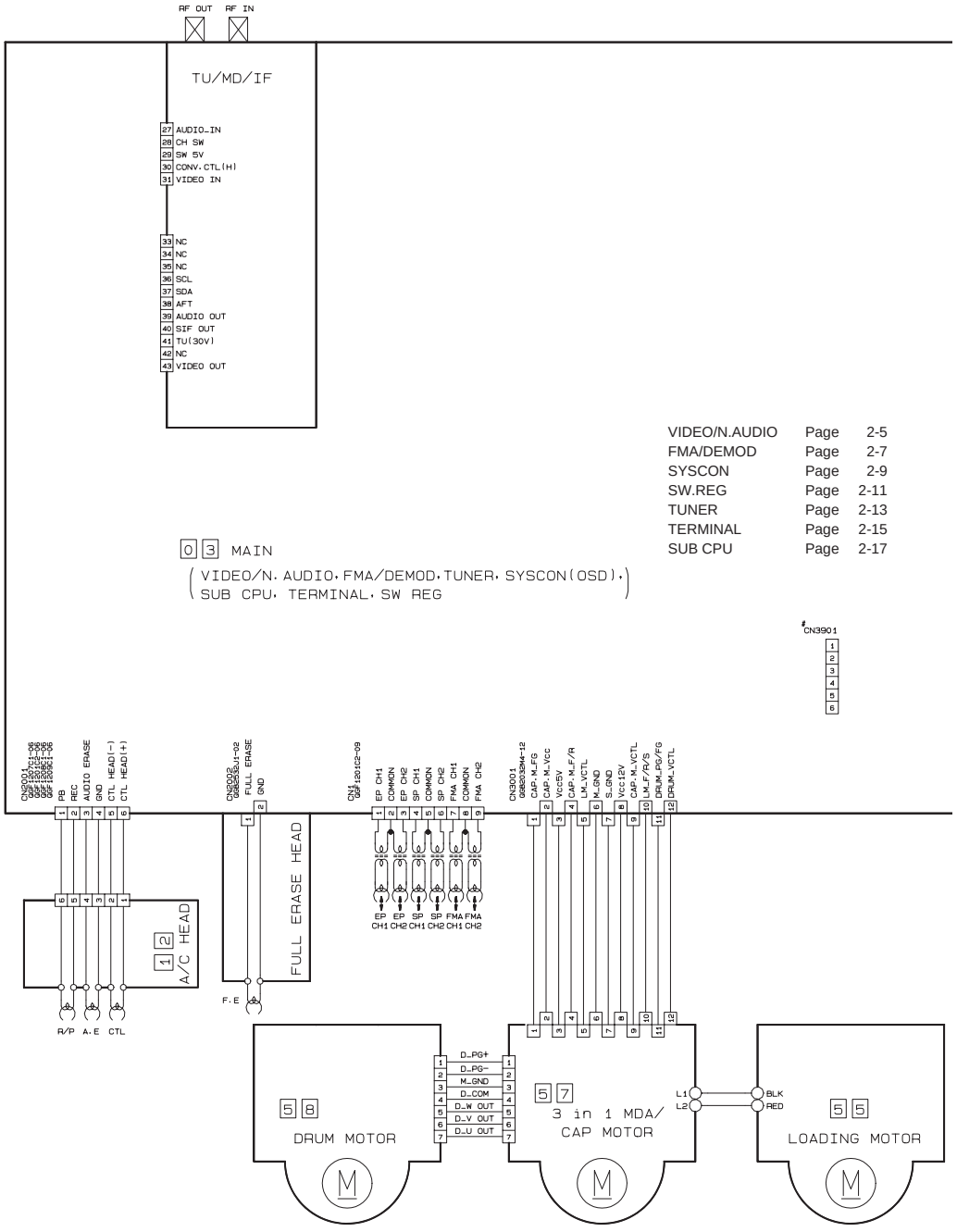
2. Parts location guides

Parts location are indicated by guide scale on the circuit board.



Note: For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

■ BOARD INTERCONNECTIONS

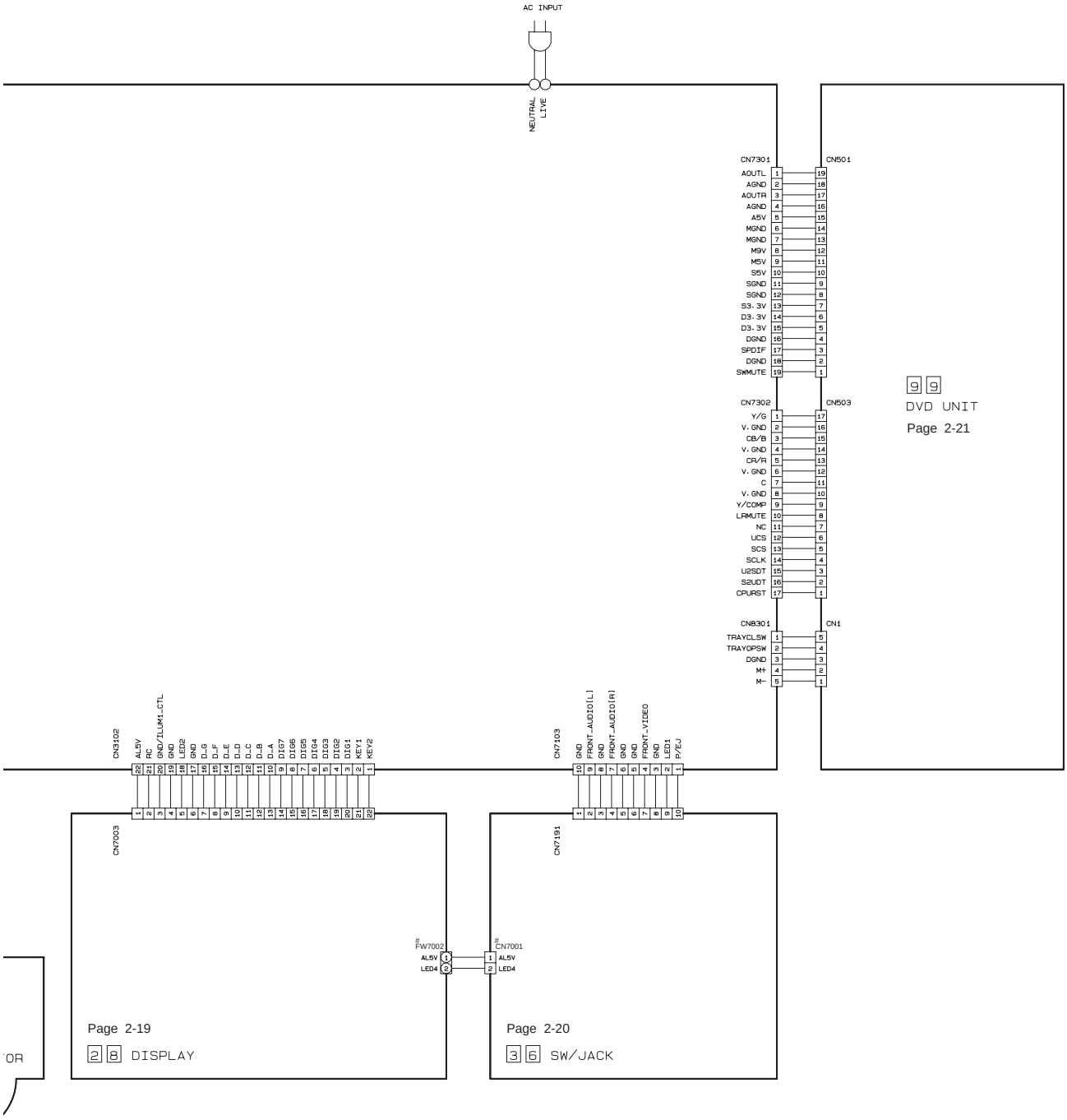


58	DRUM MOTOR
57	3in1 MDA/CAP MOTOR
55	LOADING MOTOR
36	SW/JACK
28	DISPLAY
12	A/C HEAD
03	MAIN
NO	NAME

#:OPTION

	CN7001, FW7002
HR-XVC26US	X
HR-XVC27US/UC	X
HR-XVC22UC	X
HR-XVC23UC	X
HR-XVC34UC	O

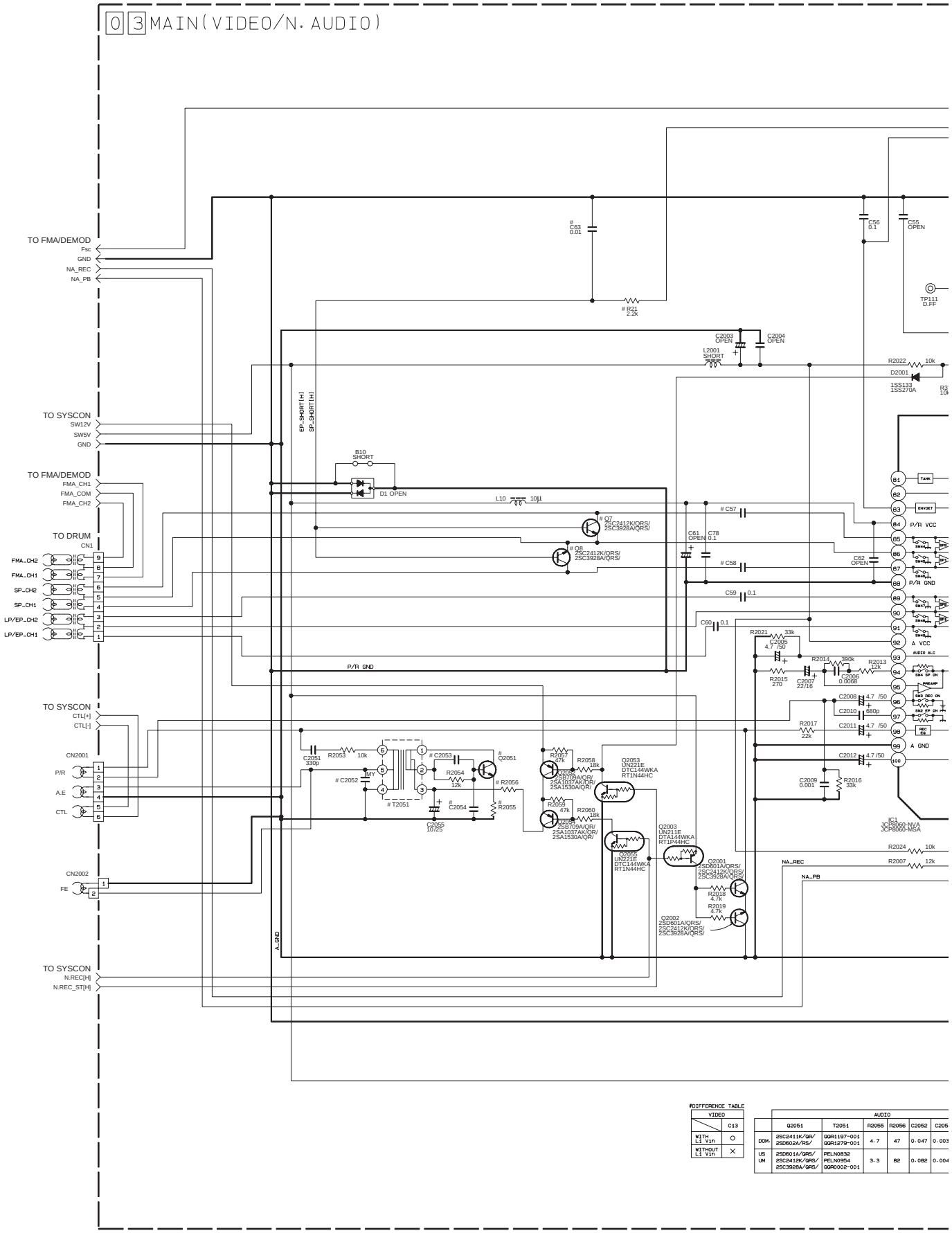
CN3901 ARE USED ONLY FOR FLASH C



ASH CPU.

p10600001a_rev0

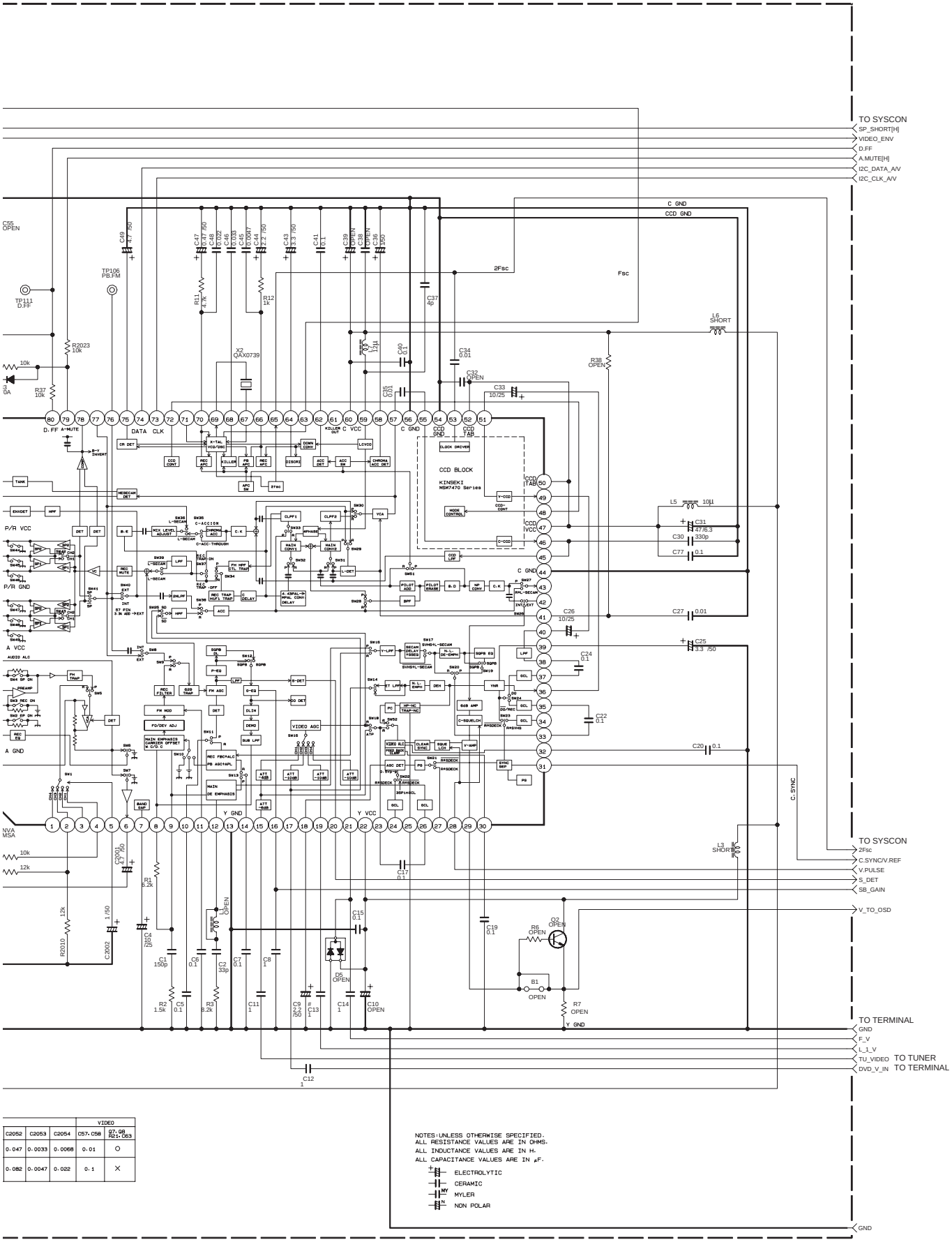
■ MAIN(VIDEO/N.AUDIO) SCHEMATIC DIAGRAM



#DIFFERENCE TABLE

VIDEO	C13
WITH L1 Vin	○
WITHOUT L1 Vin	×

	AUDIO					
	Q2051	T2051	R2055	R2056	C2052	C205
DOM.	2SC2411K/GR/ 2SD602A/RS/	GQR1197-001 GQR1279-001	4.7	47	0.047	0.003
US UM	2SD601A/QRS/ 2SC2412K/QRS/ 2SC3928A/QRS/	PELN0832 PELN0954 GQR0002-001	3.3	82	0.082	0.004



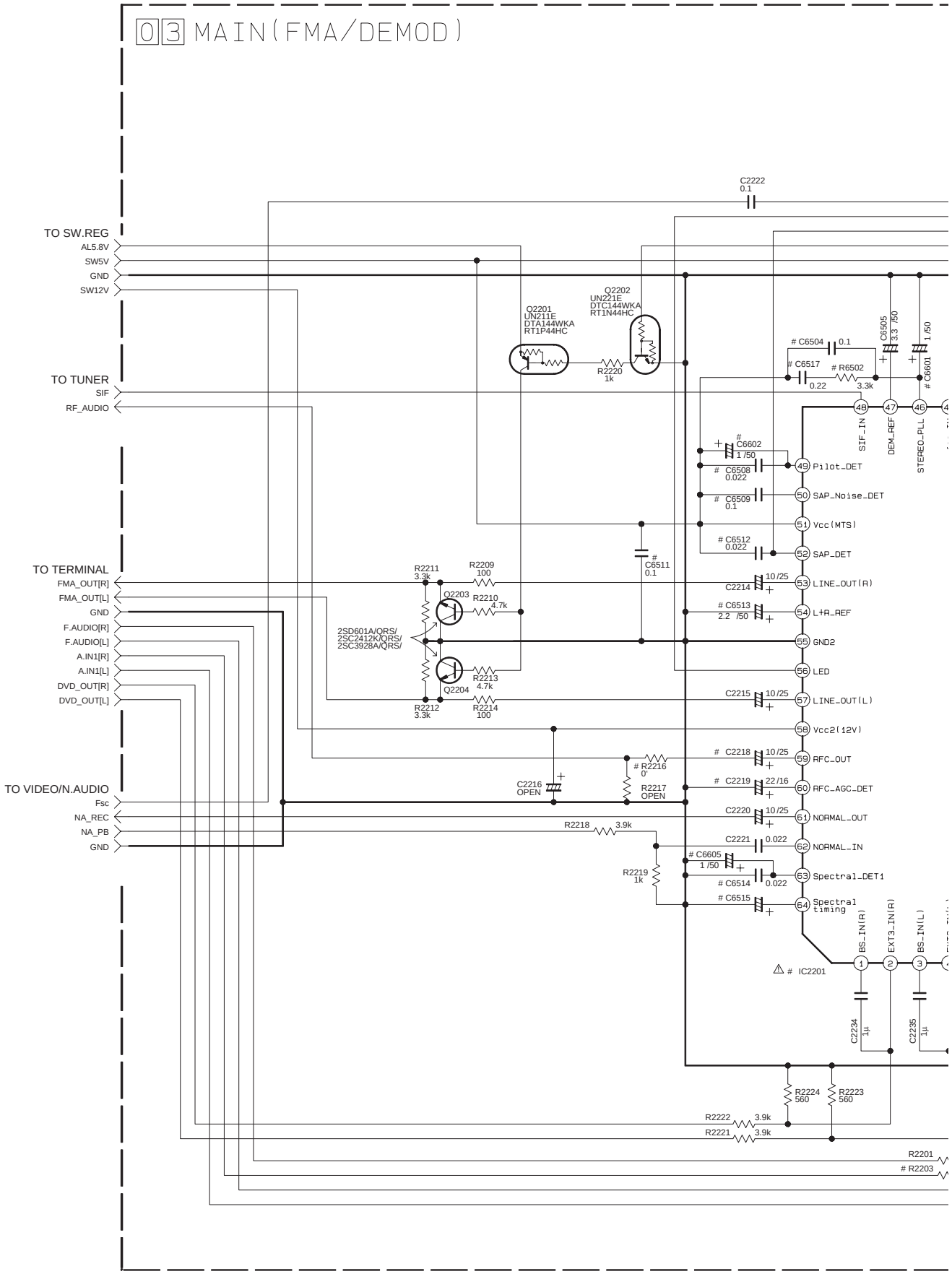
			VIDEO	
C2052	C2053	C2054	C57, C58	R27, R28, R51, R53
0.047	0.0033	0.0068	0.01	○
0.082	0.0047	0.022	0.1	×

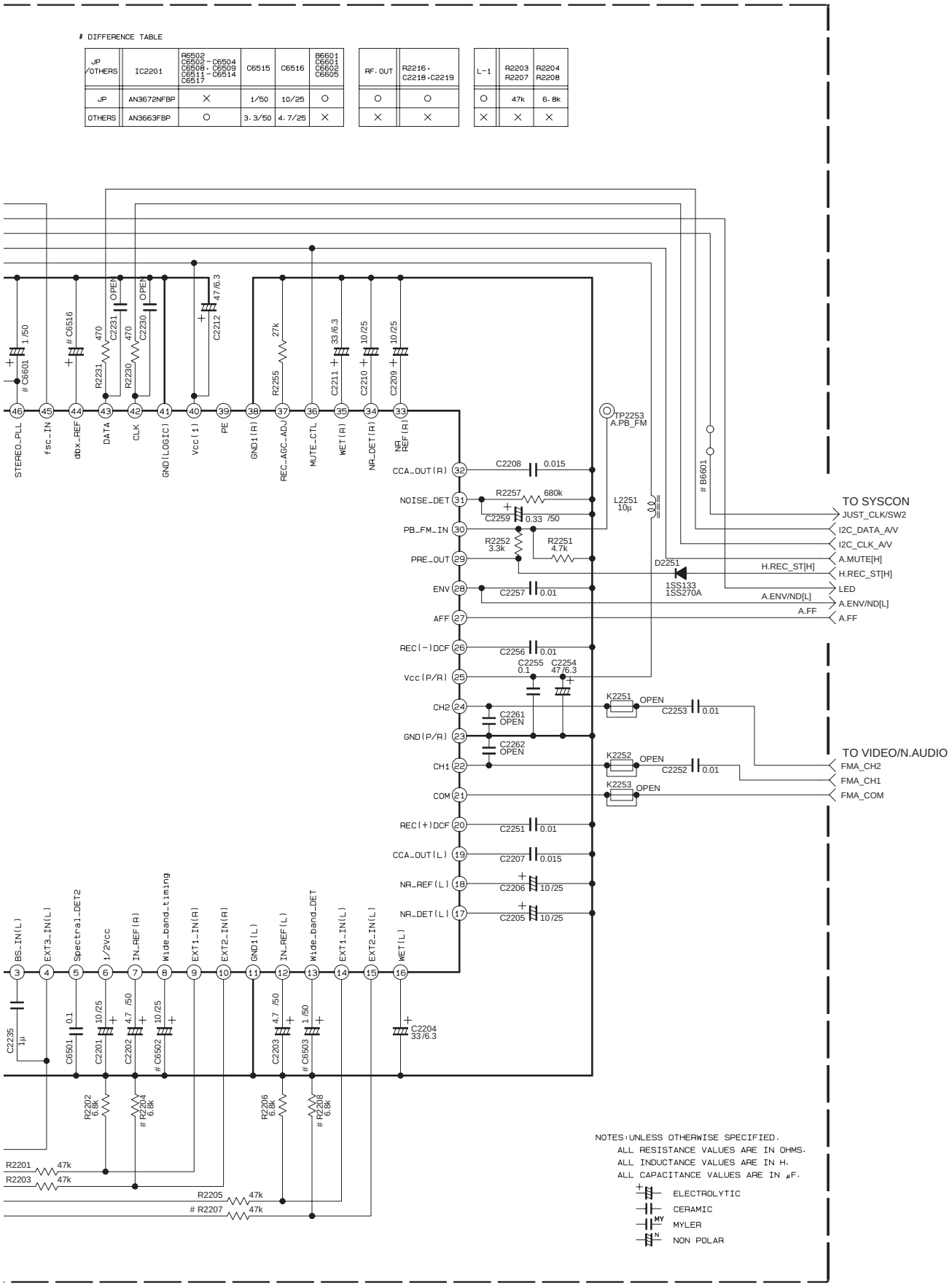
NOTES: UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN µF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p10590001a_rev0

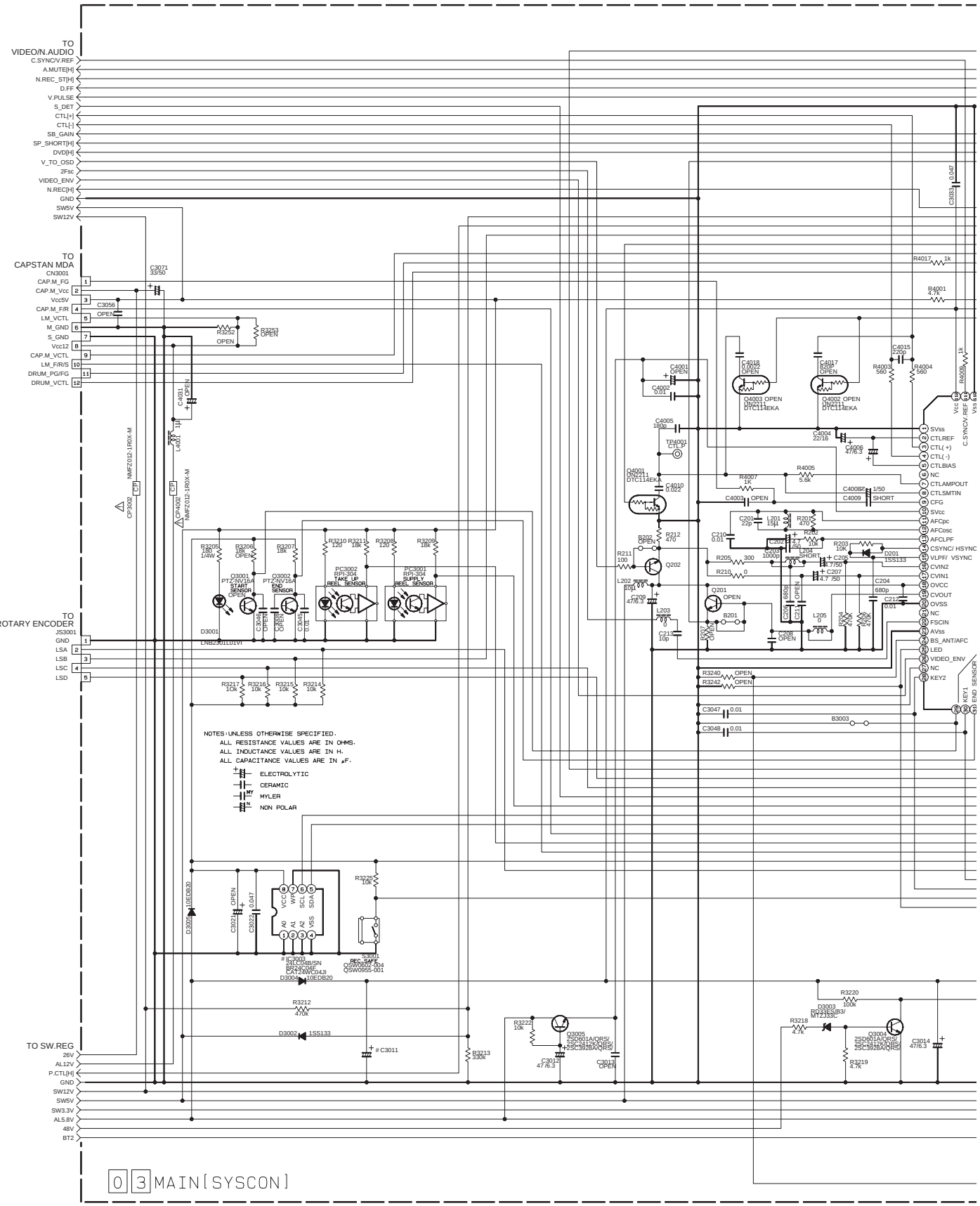
■ MAIN(FMA/DEMOD) SCHEMATIC DIAGRAM

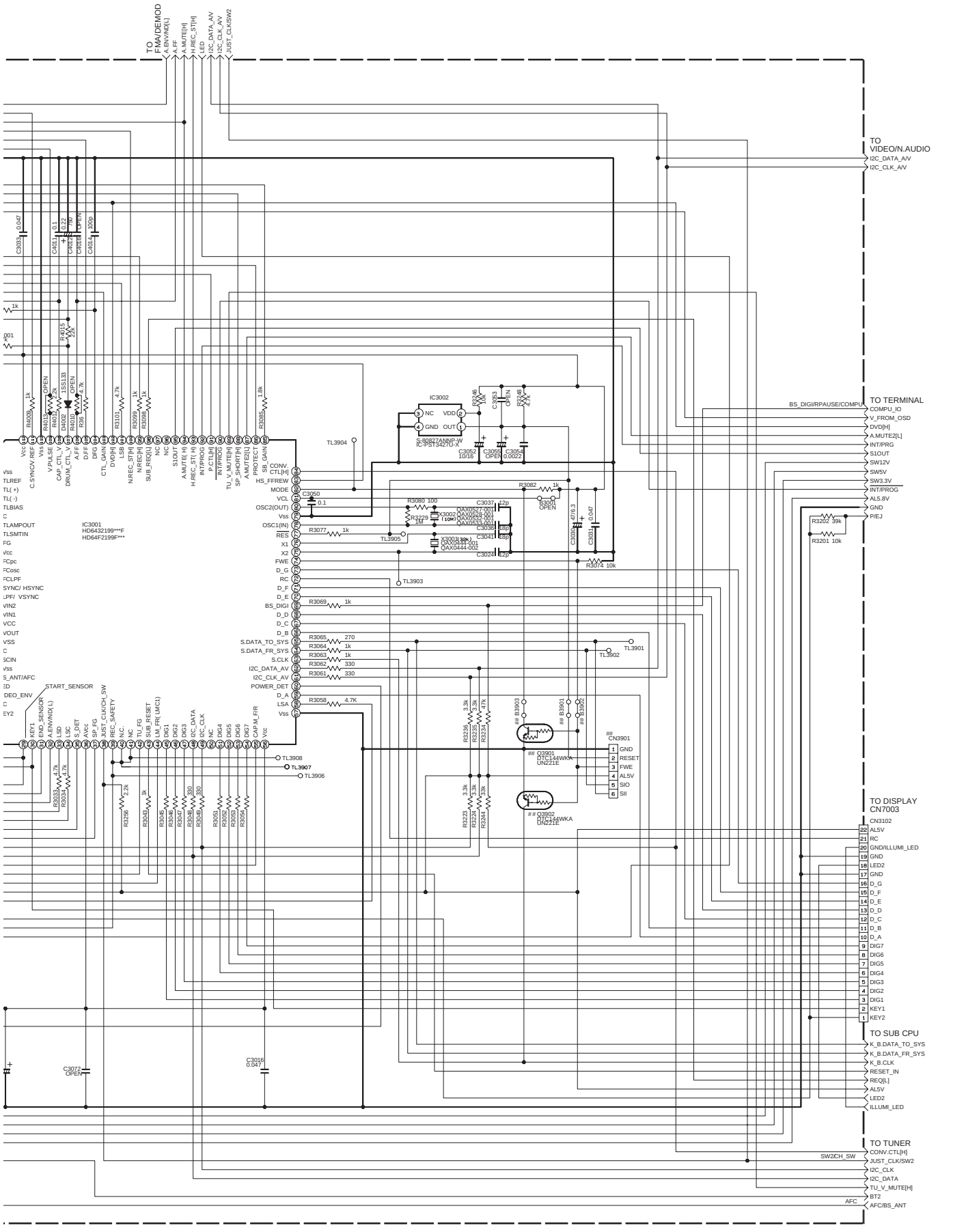




p20398001a_rev0

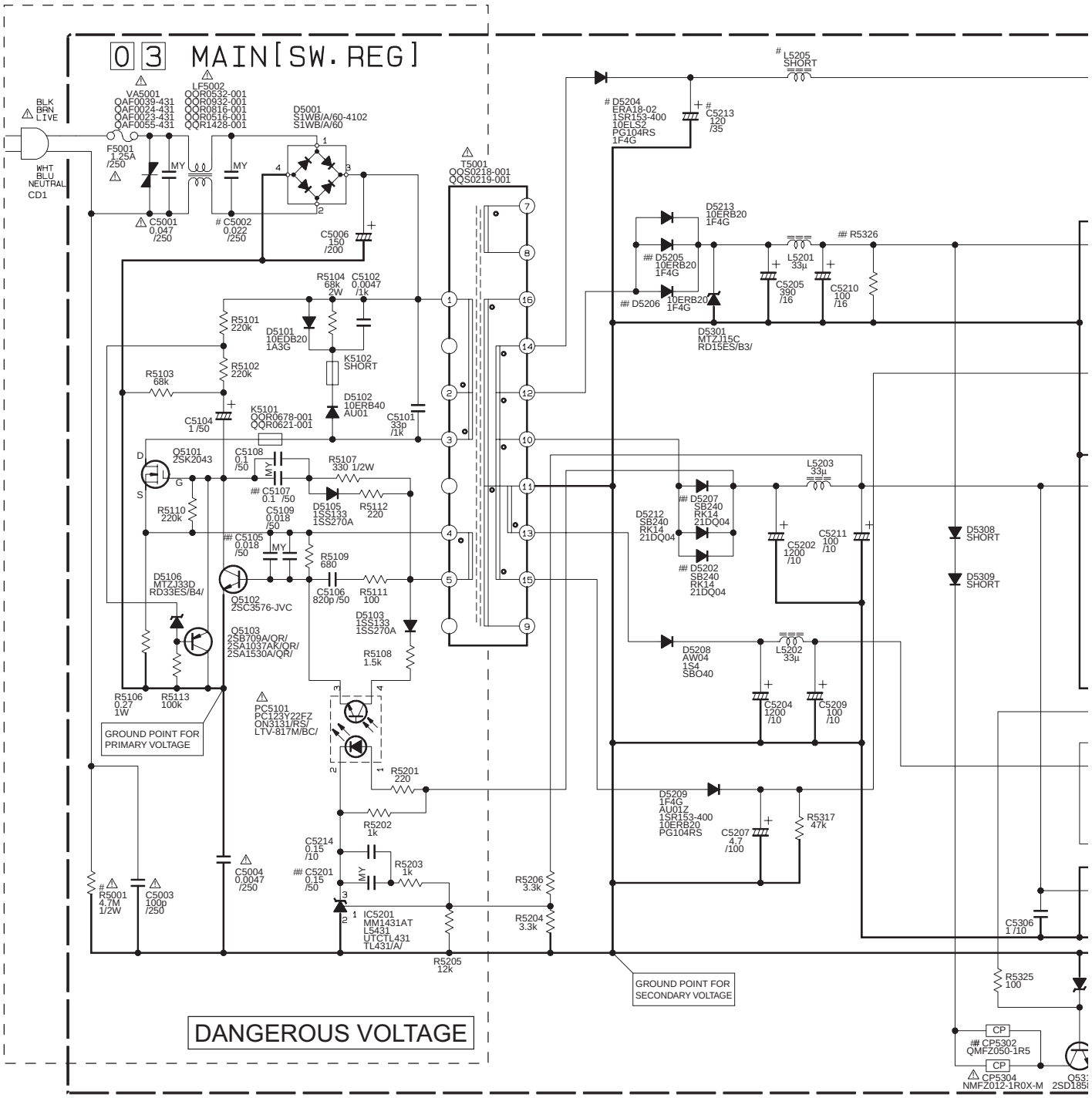
■ MAIN(SYSCON) SCHEMATIC DIAGRAM





p10592001a_rev0

■ MAIN(SW.REG) SCHEMATIC DIAGRAM



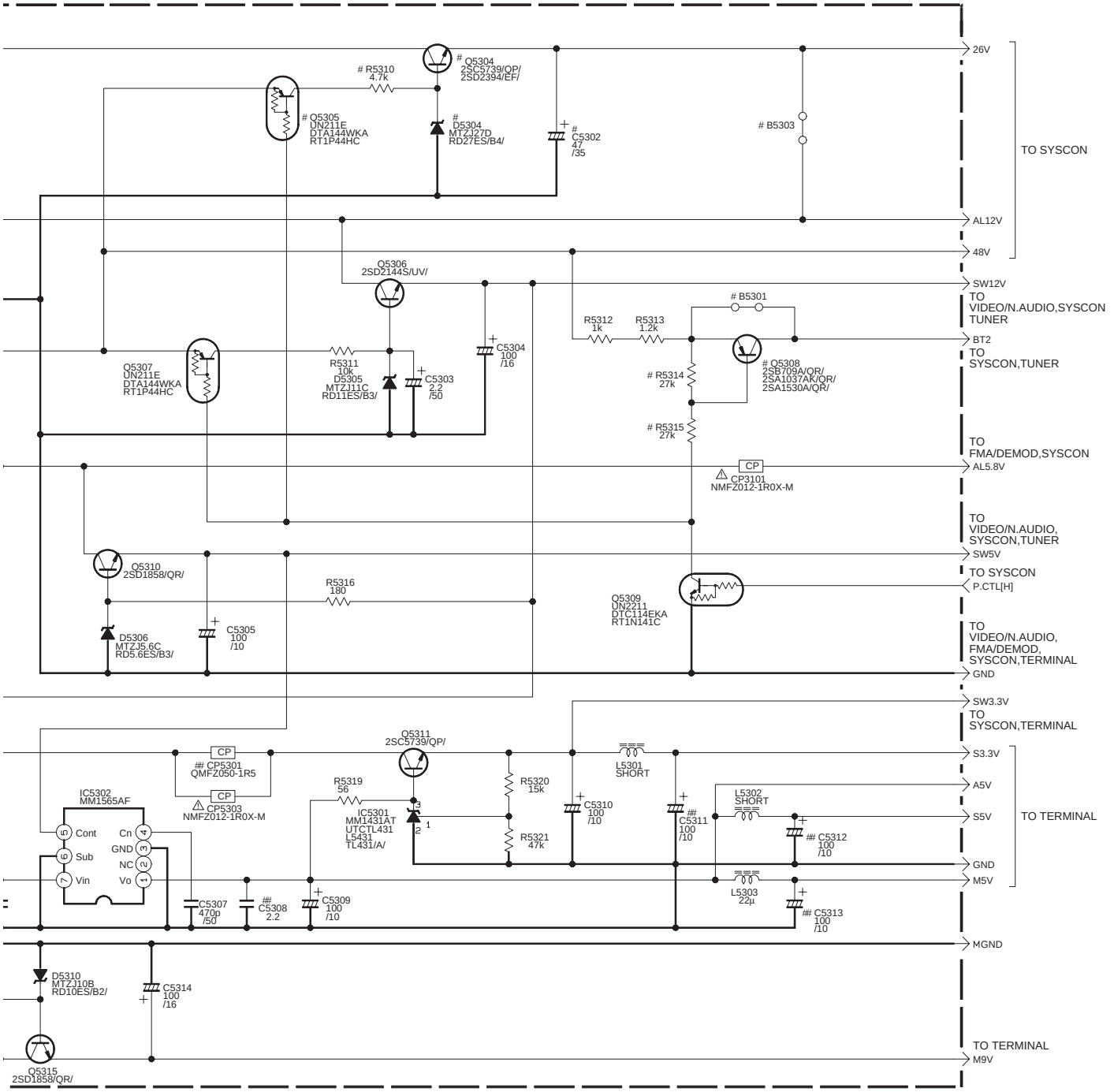
MARK ELEMENTS ARE NOT MOUNTED

DIFFERENCE TABLE

	R5001	C5002	C5213 C5302 Q5305 D5204 D6304 R5310 L5205 Q5304	B5303	Q5308 R5314 R5315	B5301
US	YES	NO	NO	YES	NO	YES
JPN	NO	NO	YES	NO	YES	NO

NOTES: UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN µF.

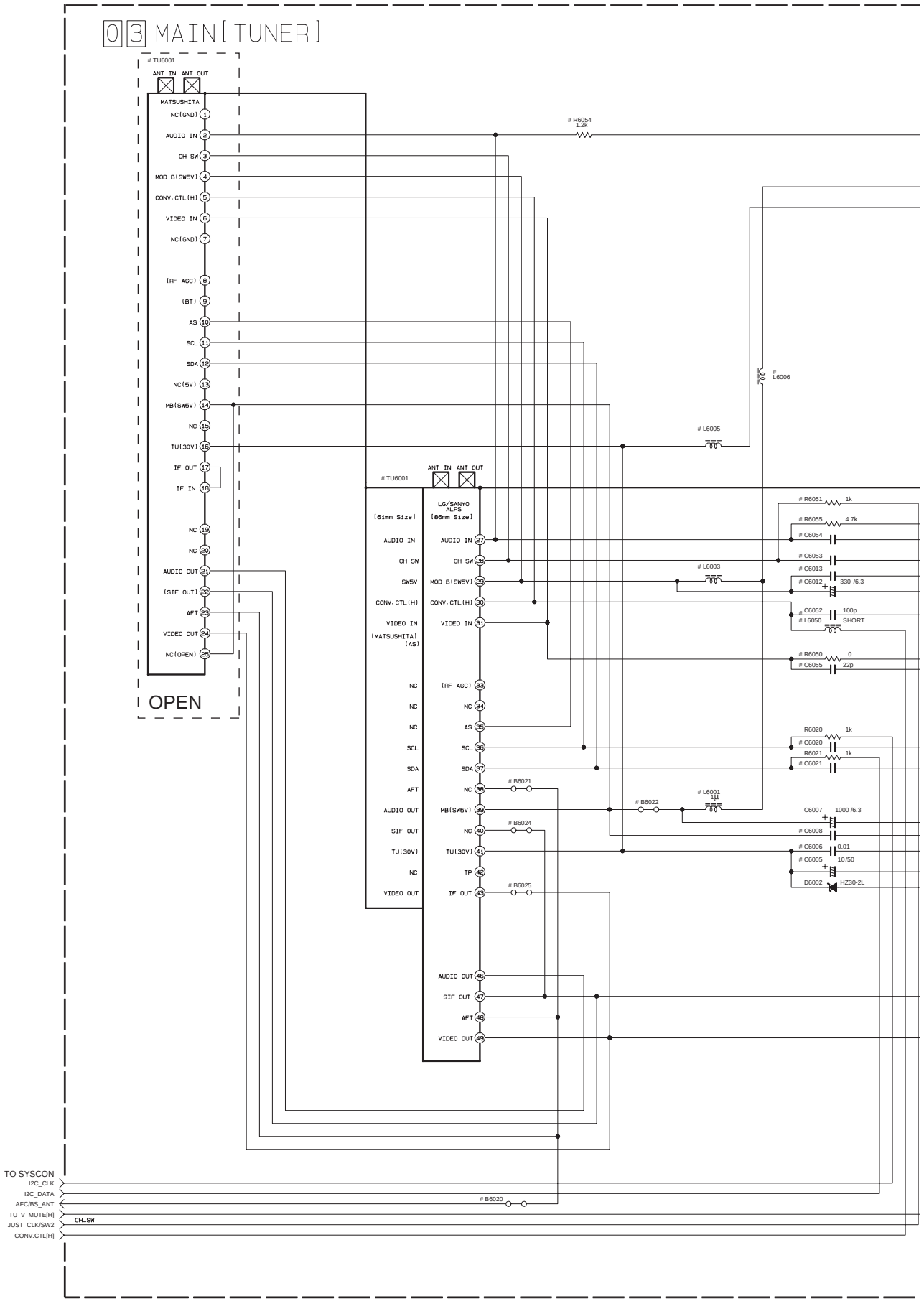
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

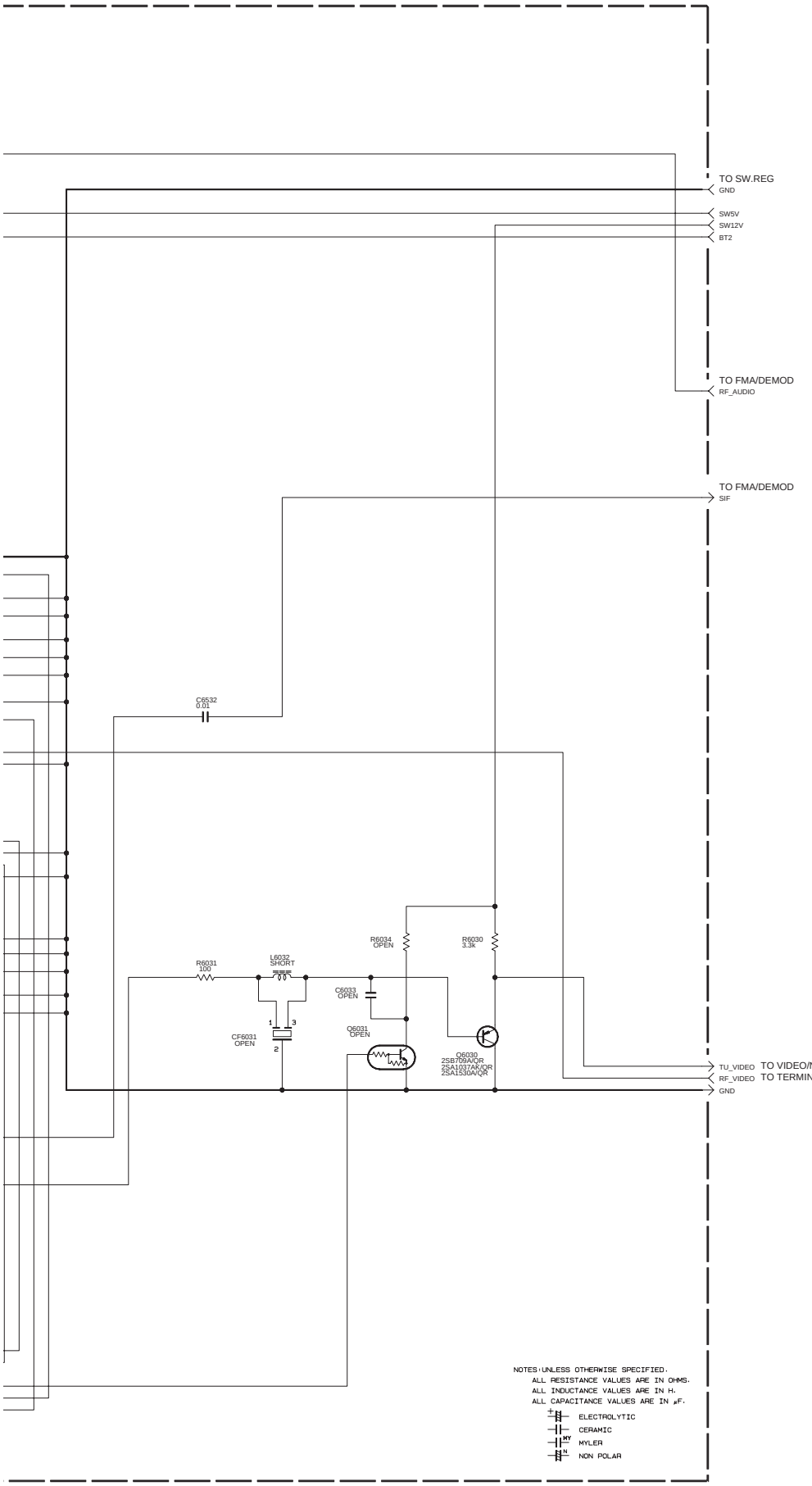


ED.
IN OHMS.
IN H.
IN µF.

p20400001a_rev0

■ MAIN(TUNER) SCHEMATIC DIAGRAM





DIFFERENCE TABLE

		US/UC				JAPAN	
RF OUT		○		×		×	×
TU UNIT		MATSUSHITA GAU0296	LG GAU0336	MATSUSHITA GAU0296	LG GAU0336	MATSUSHITA GAU0295	SANYO GAU0335
TUNER OPTION	B6021	×	○	×	○	×	×
	B6022	○	×	○	×	○	×
	B6024	×	○	×	○	×	○
	B6025	×	○	×	○	×	○
AUDIO IN	C6054	×	×	×	×	100p	100p
	R6054	○	○	×	×	×	×
	R6055	○	○	×	×	×	×
CH SW	R6051	○	○	×	×	×	×
	C6053	12p	12p	×	×	×	×
MOD B (SW5V)	L6003	1μ	SHORT	×	SHORT	×	1μ
	C6013	1000p	1000p	1000p	1000p	×	×
	C6012	×	×	×	×	×	×
CONV. CTL	C6052	×	×	×	×	×	×
	L6050	SHORT	SHORT	×	×	×	×
VIDEO IN	R6050	0	0	×	×	×	×
	C6055	×	×	×	×	×	×
I2C_BUS	C6020	×	×	×	×	×	×
	C6021	×	×	×	×	×	×
MB (SW5V)	L6006	SHORT	SHORT	SHORT	SHORT	SHORT	SHORT
	L6001	1μ	×	1μ	×	1μ	×
	C6007	×	×	×	×	×	×
	C6008	×	×	×	×	100p	100p
TU(30V)	L6005	SHORT	SHORT	SHORT	SHORT	1μ	1μ
	C6006	×	×	×	×	×	×
	C6005	×	×	×	×	×	×
AFC	B6020	○	○	○	○	×	×

NOTES: UNLESS OTHERWISE SPECIFIED.
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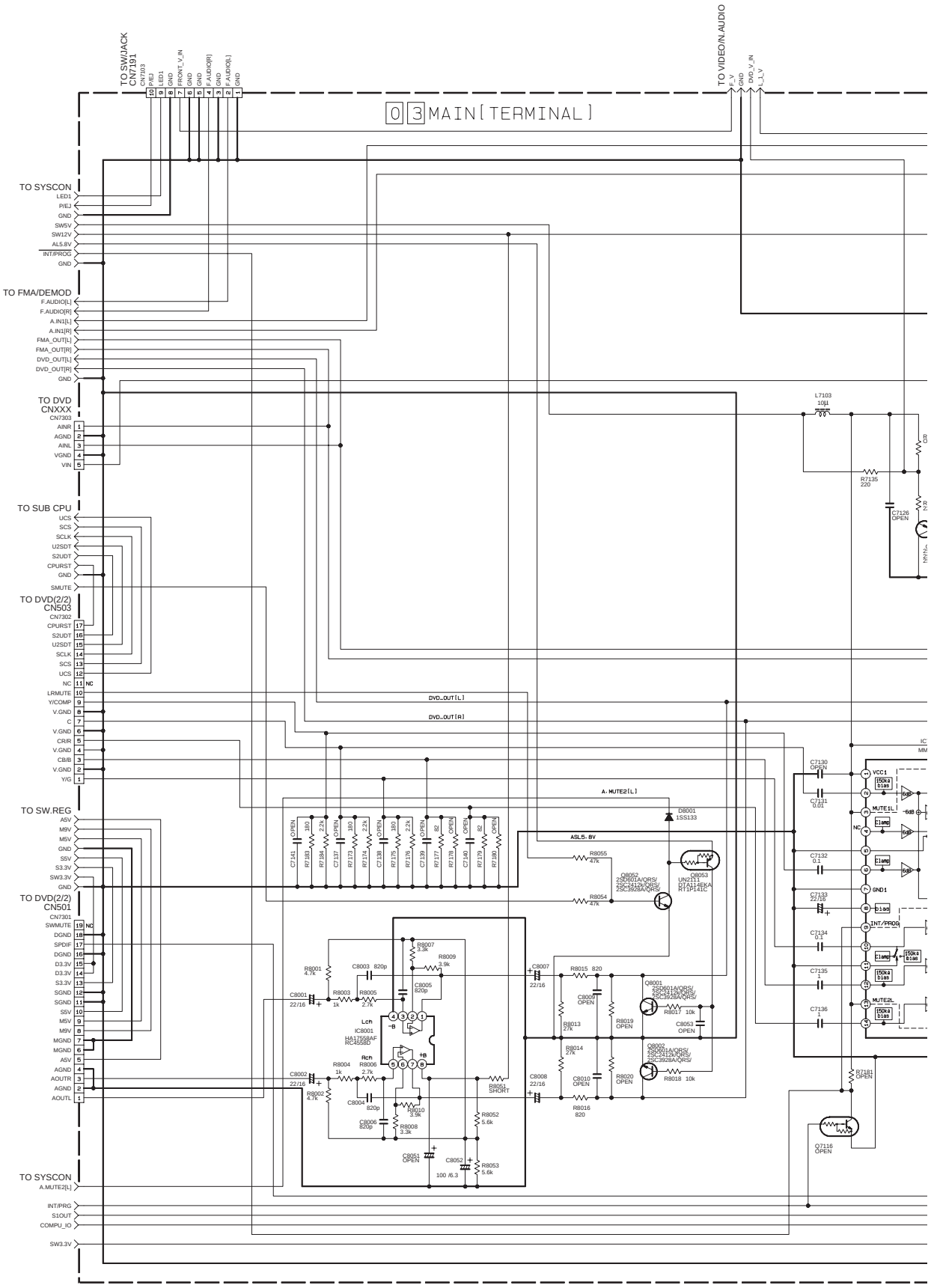
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p10599001a_rev0

■ MAIN(TERMINAL) SCHEMATIC DIAGRAM



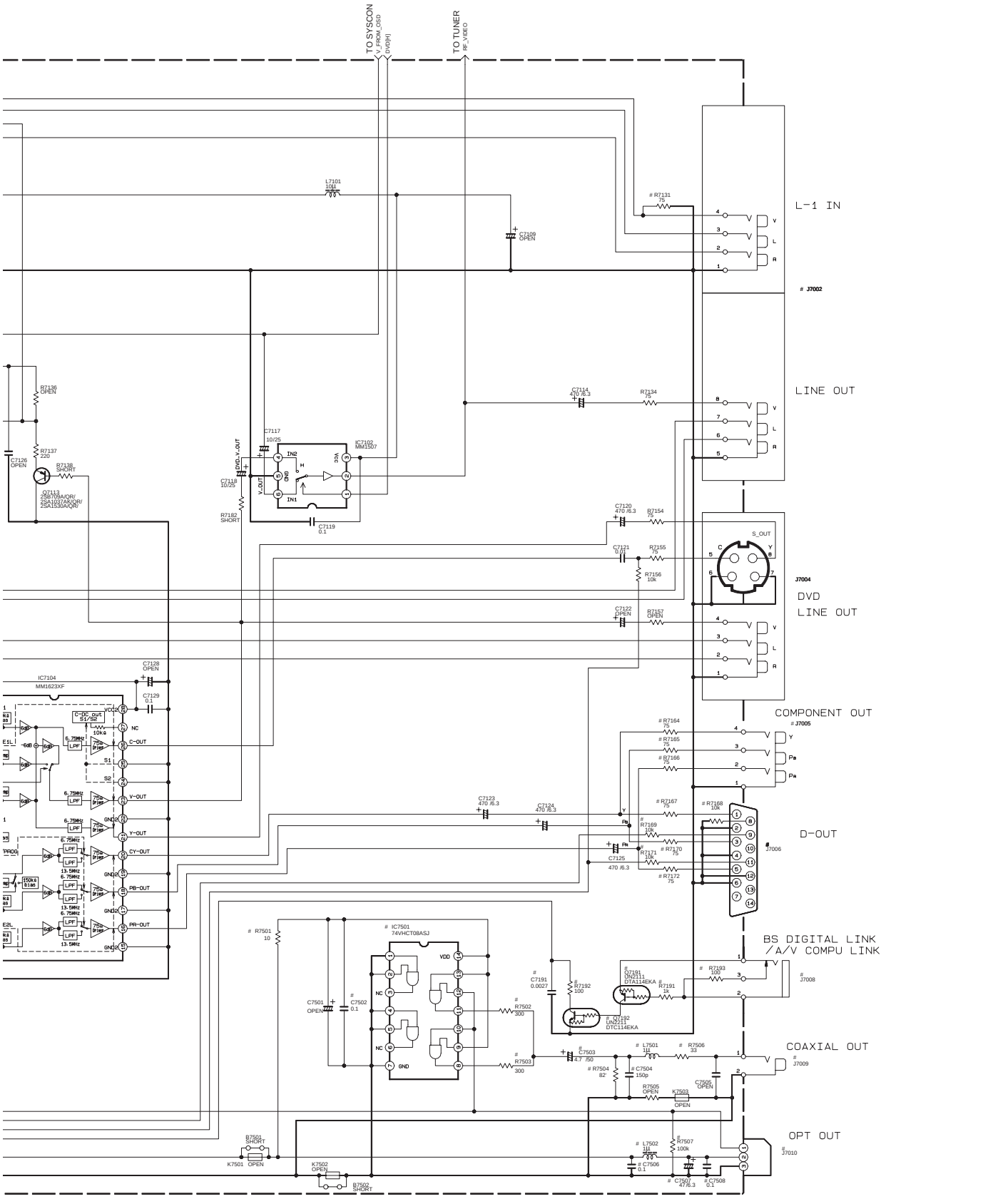
DIFFERENCE TABLE

	C7191 C7192 C7193 C7194 C7195 C7197	R7191 R7192	J7008 R7193
BS DIGITAL LINK REC	○	×	○
REMOTE PAUSE	×	○	○

OPT OUT	COAXIAL OUT	J7010 L7502 C7506 – C7508 R7507	J7009 IC7501 R7501 – R7504 R7505 C7502 – C7504 L7501
○	×	○	×
×	○	×	○
○	○	○	○

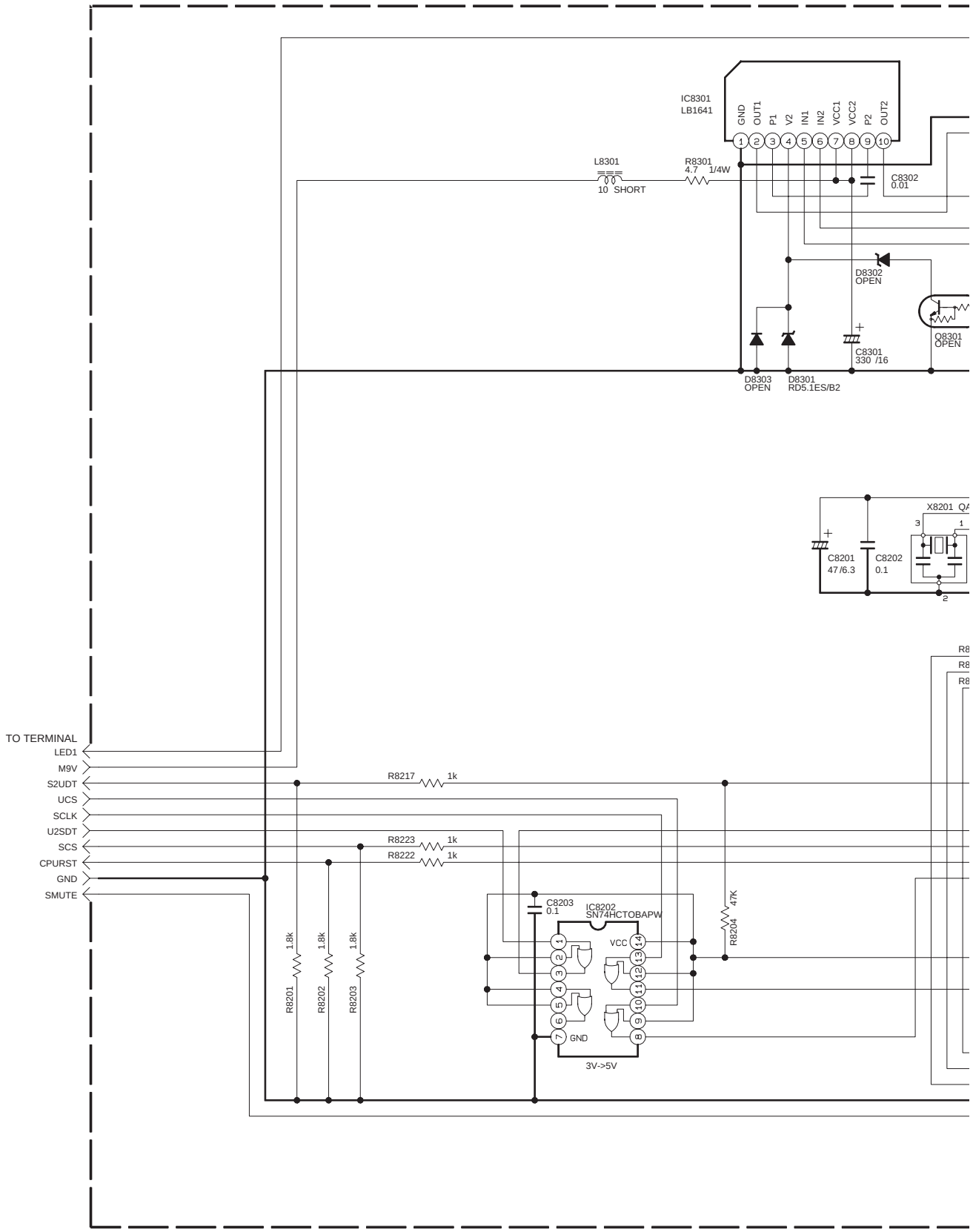
	R7131
WITH L I V IN	○
WITHOUT L I V IN	×

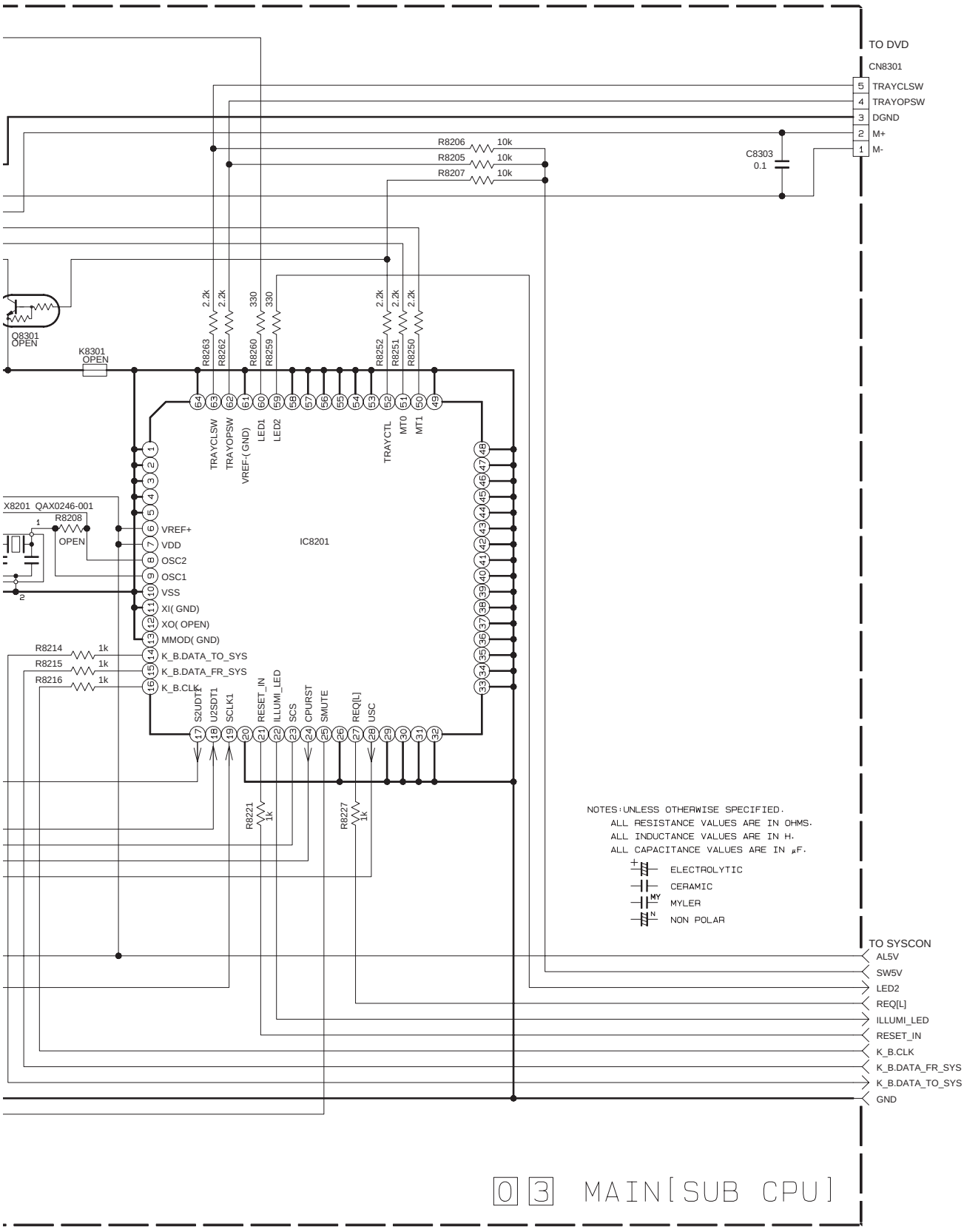
	DVD OUT D1/D2	DVD OUT Y/Cb/Cr
	J7009 R7162 R7163 R7169 R7170 R7171 R7172	J7005 R7164 R7165 R7166
DDN	○	×
US/UM	×	○



p10591001a_rev0

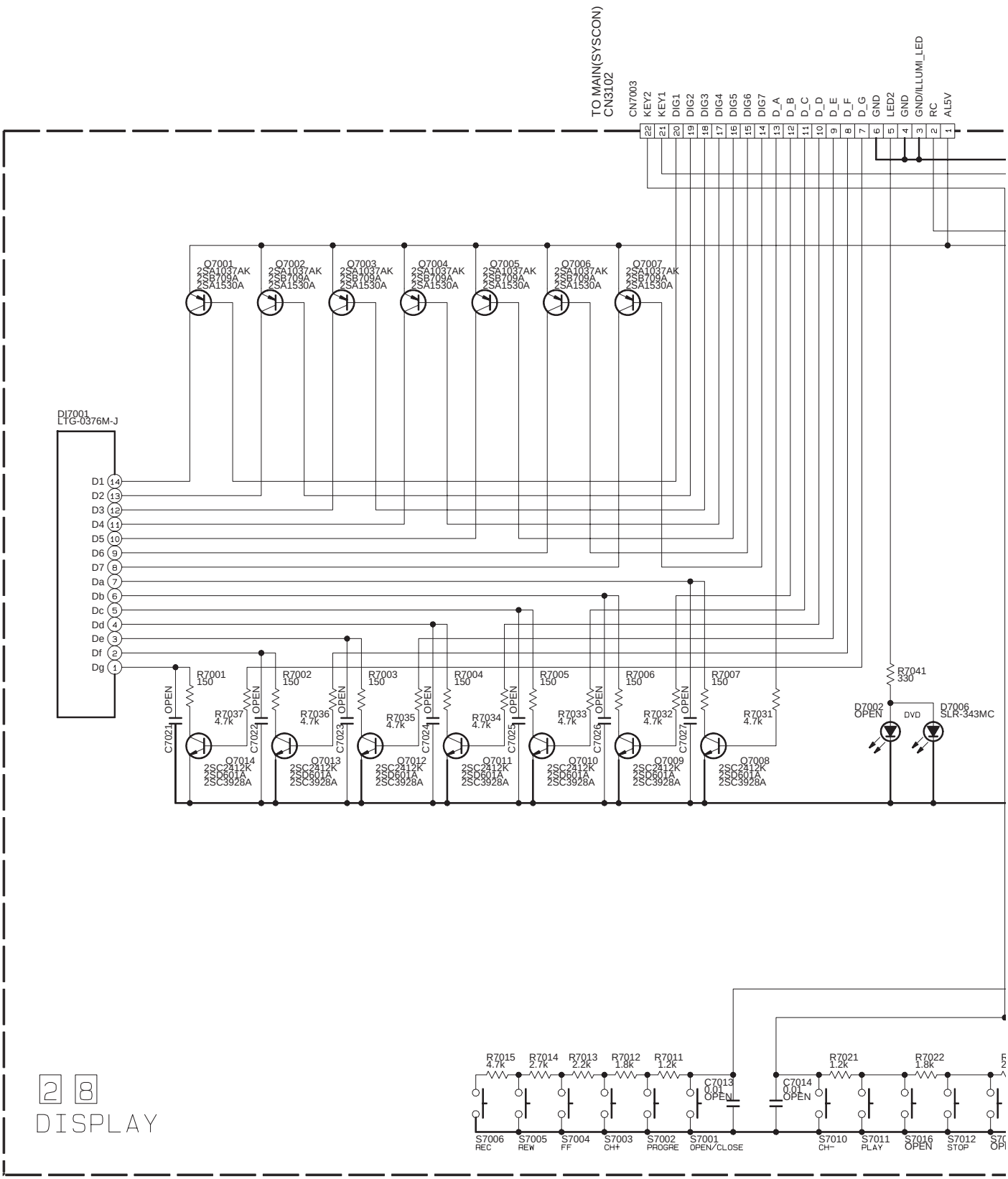
■ MAIN(SUB CPU) SCHEMATIC DIAGRAM

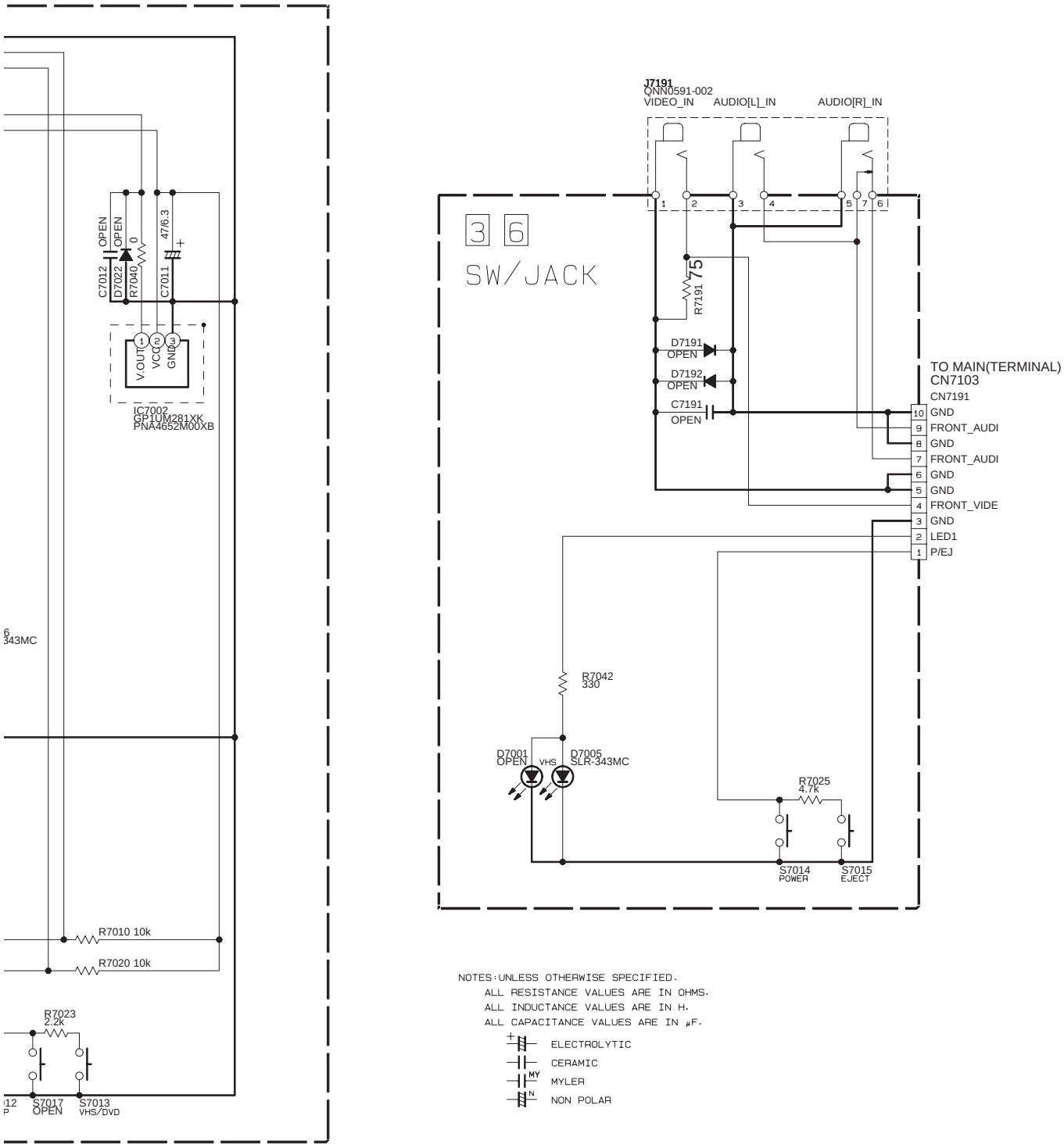




p20401001a_rev0

■ DISPLAY AND JACK SCHEMATIC DIAGRAMS





NOTES: UNLESS OTHERWISE SPECIFIED.
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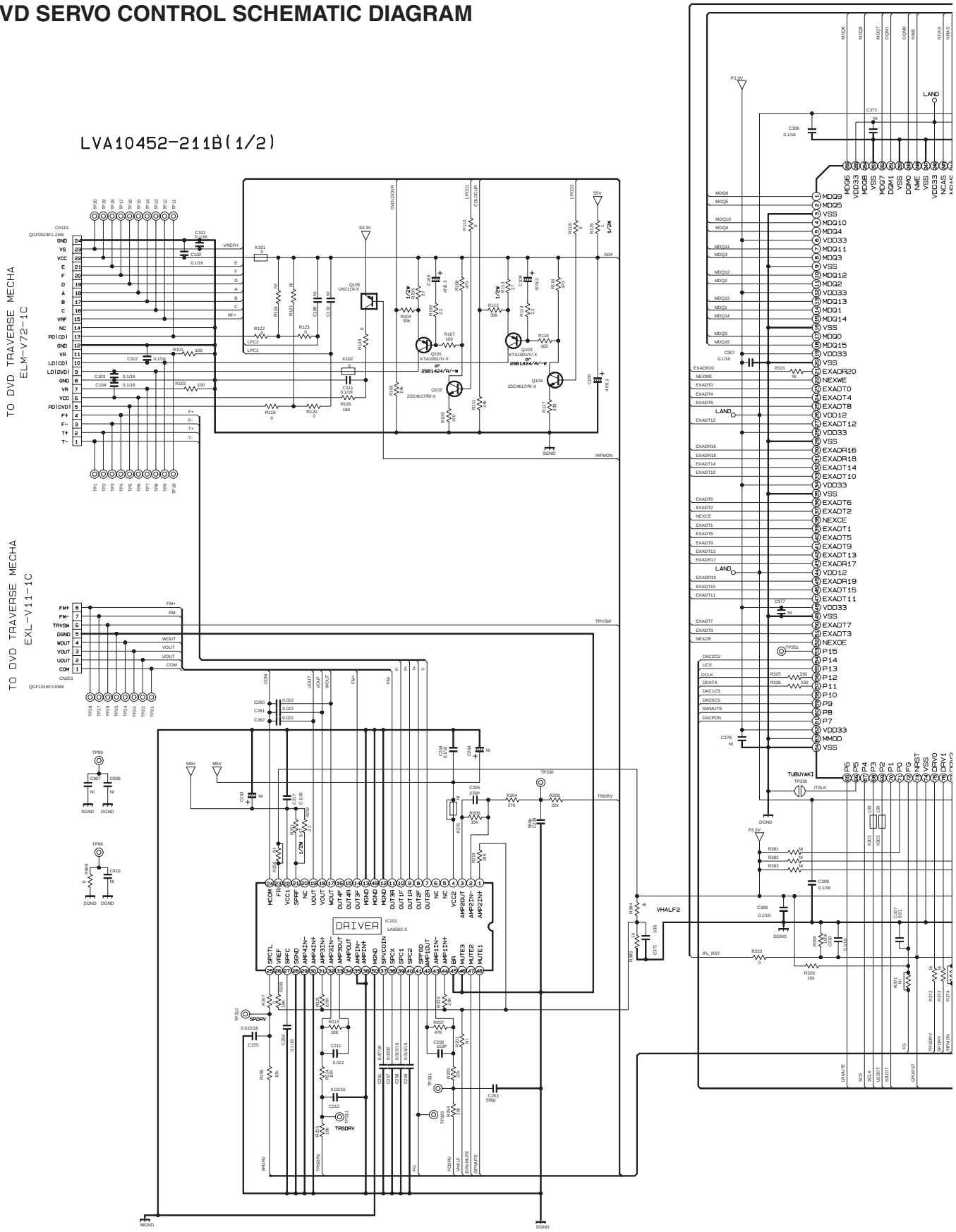
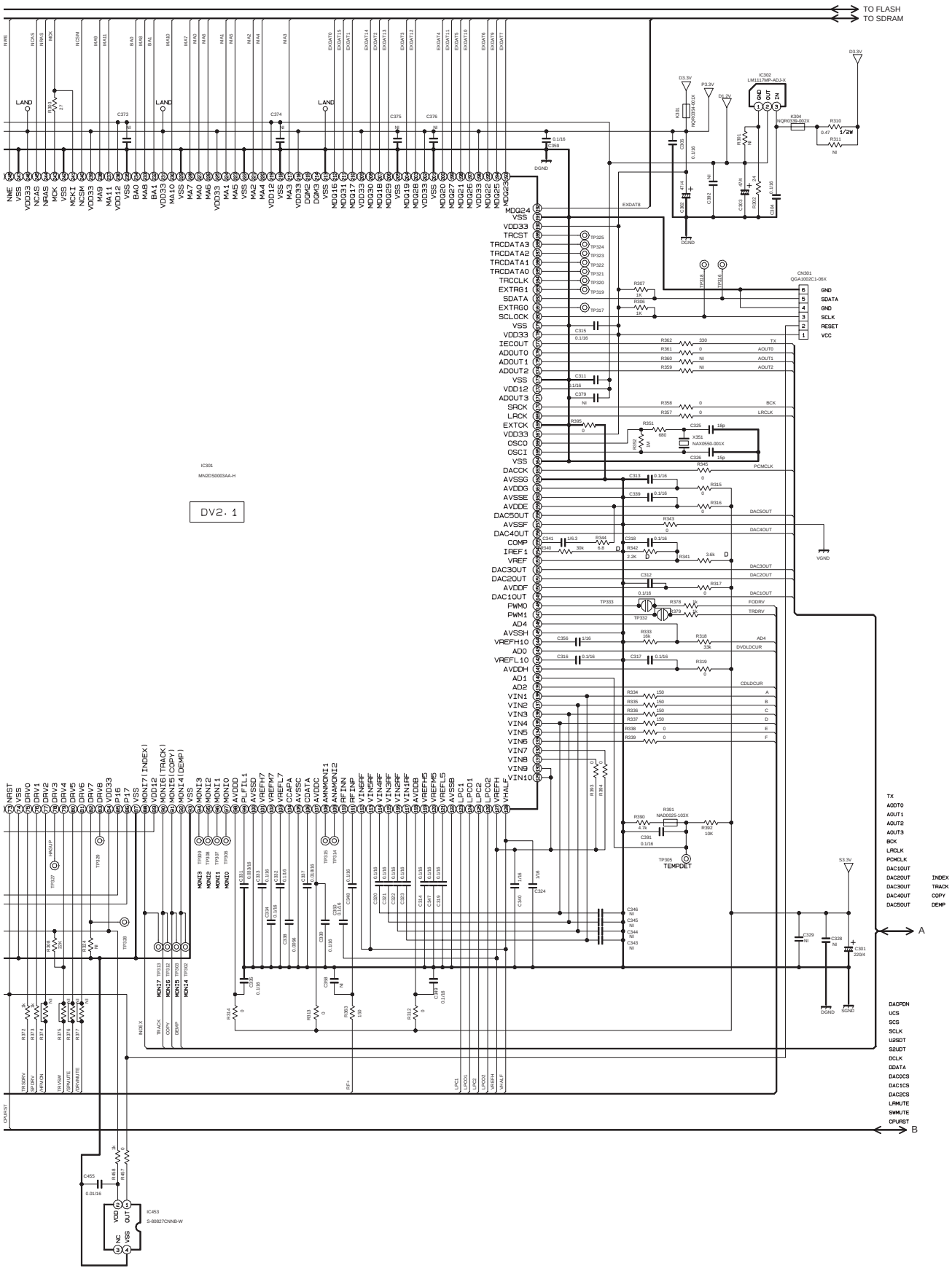
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MY MYLER
N NON POLAR

p20396001a_rev0

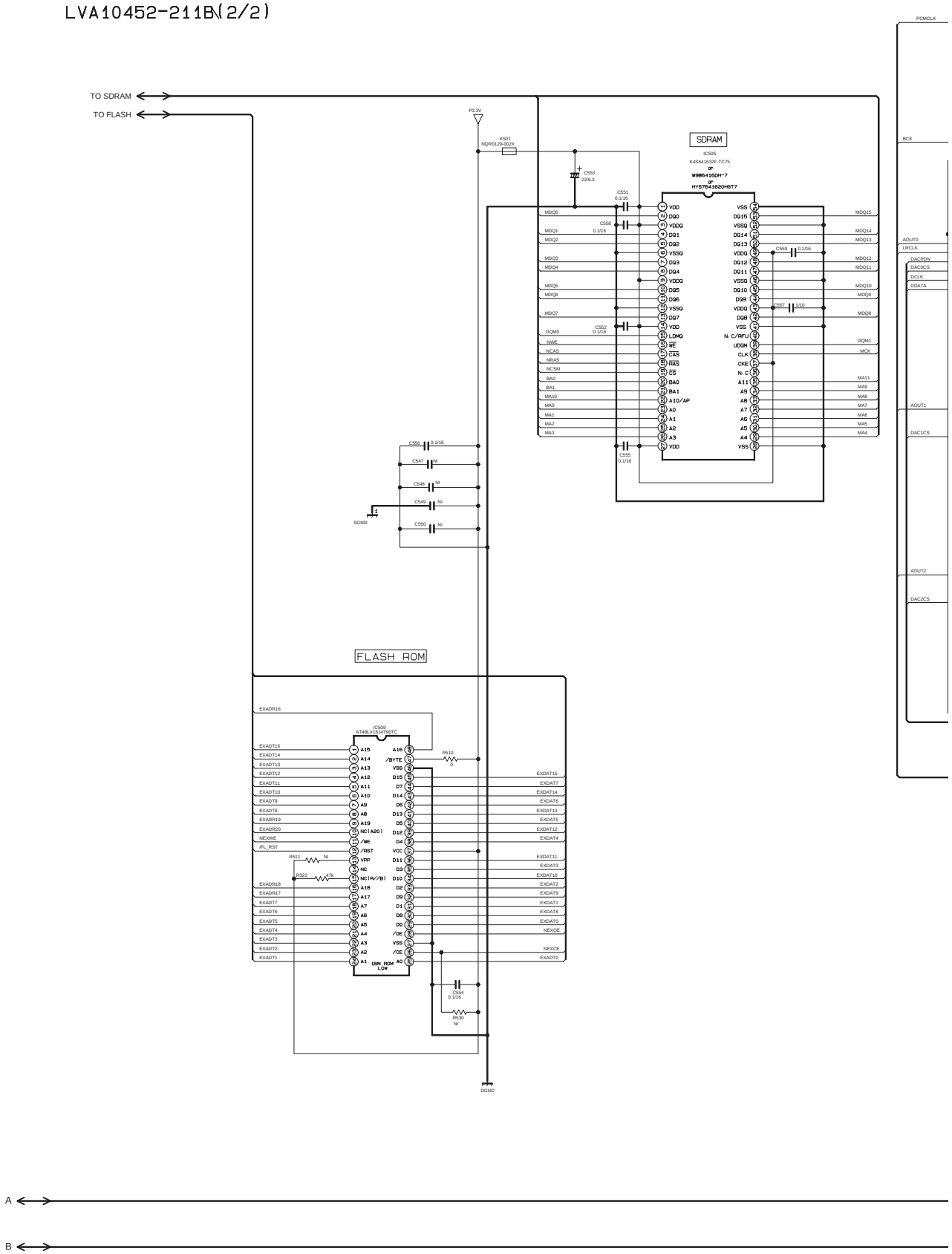
■ DVD SERVO CONTROL SCHEMATIC DIAGRAM

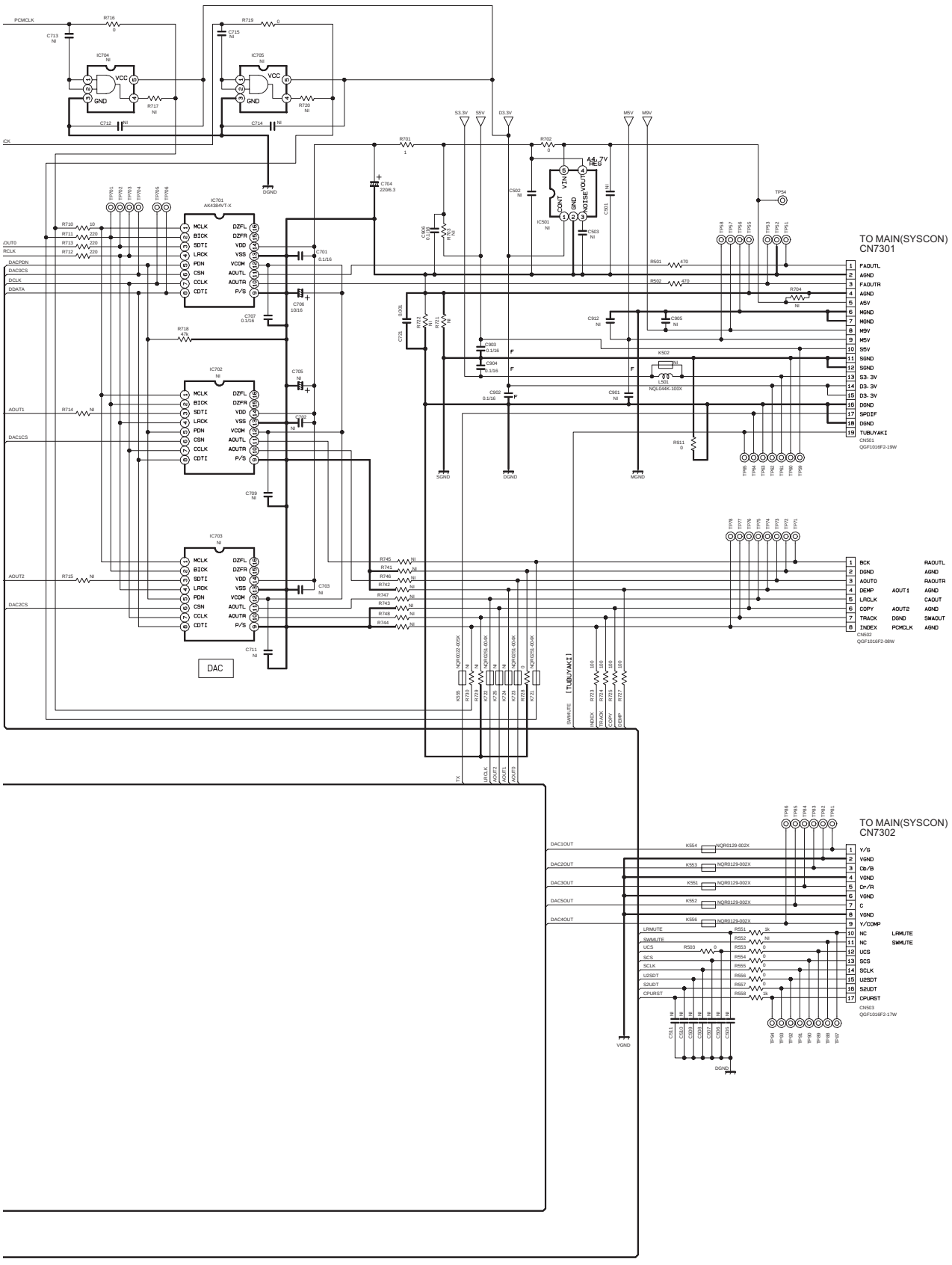



TO FLASH
TO SDRAM
DV2. 1
IC301
MN2DS0003AA-H
TEMPDET
IC453
S-80827CNNB-W
TX
AOUT0
AOUT1
AOUT2
AOUT3
BCK
LRCLK
PCMCLK
DAC1OUT
DAC2OUT
DAC3OUT
DAC4OUT
DAC5OUT
INDEX
TRACK
COPY
DEMP
DACPDN
UCS
SCS
SCLK
U2SDT
S2UDT
DCLK
DDATA
DAC0CS
DAC1CS
DAC2CS
LRMUTE
SWMUTE
CPURST
GND
SDATA
SCLK
RESET
VCC
A
B
e10054001a_rev0

DVD FLASH ROM SCHEMATIC DIAGRAM

LVA10452-211B(2/2)

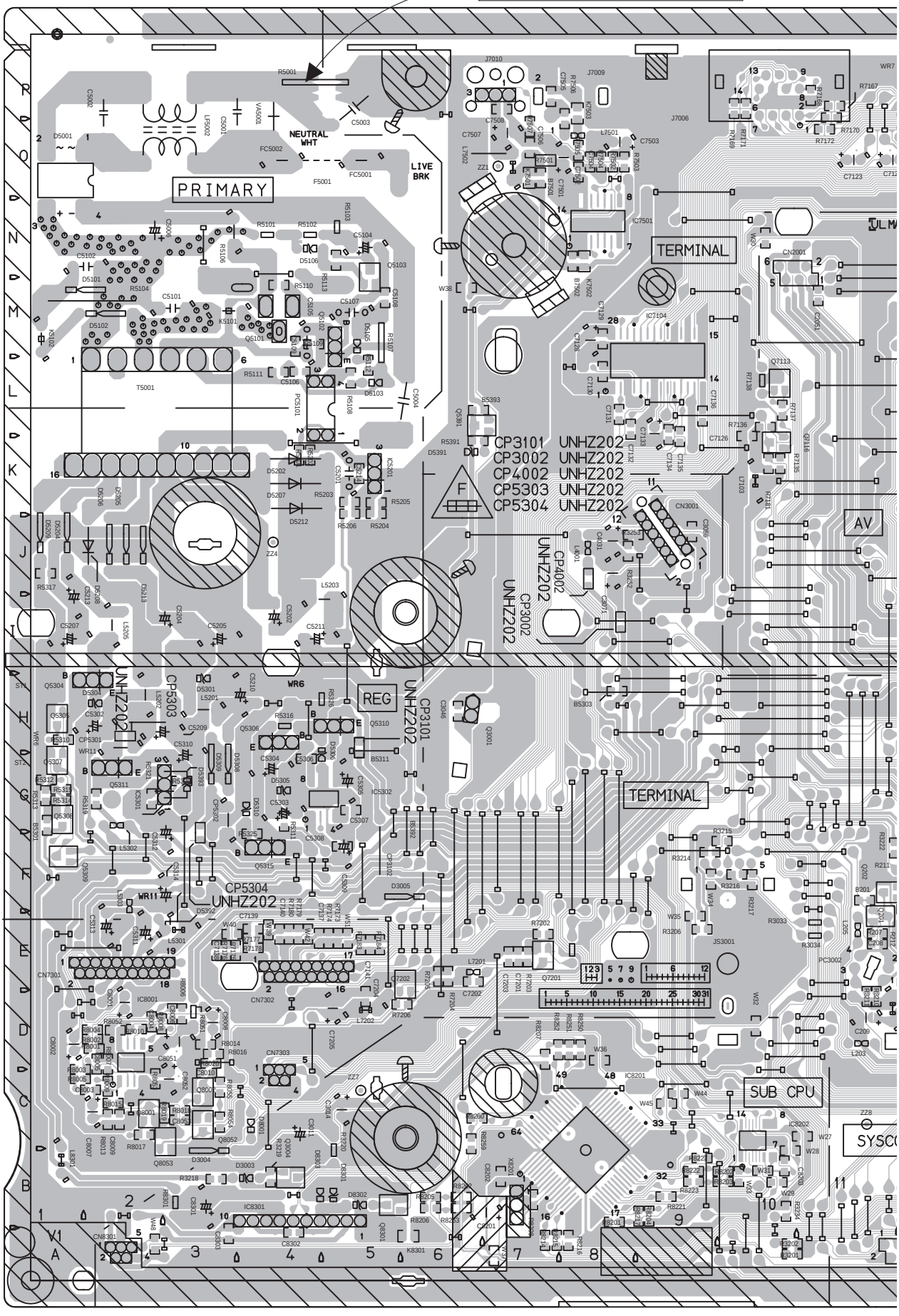




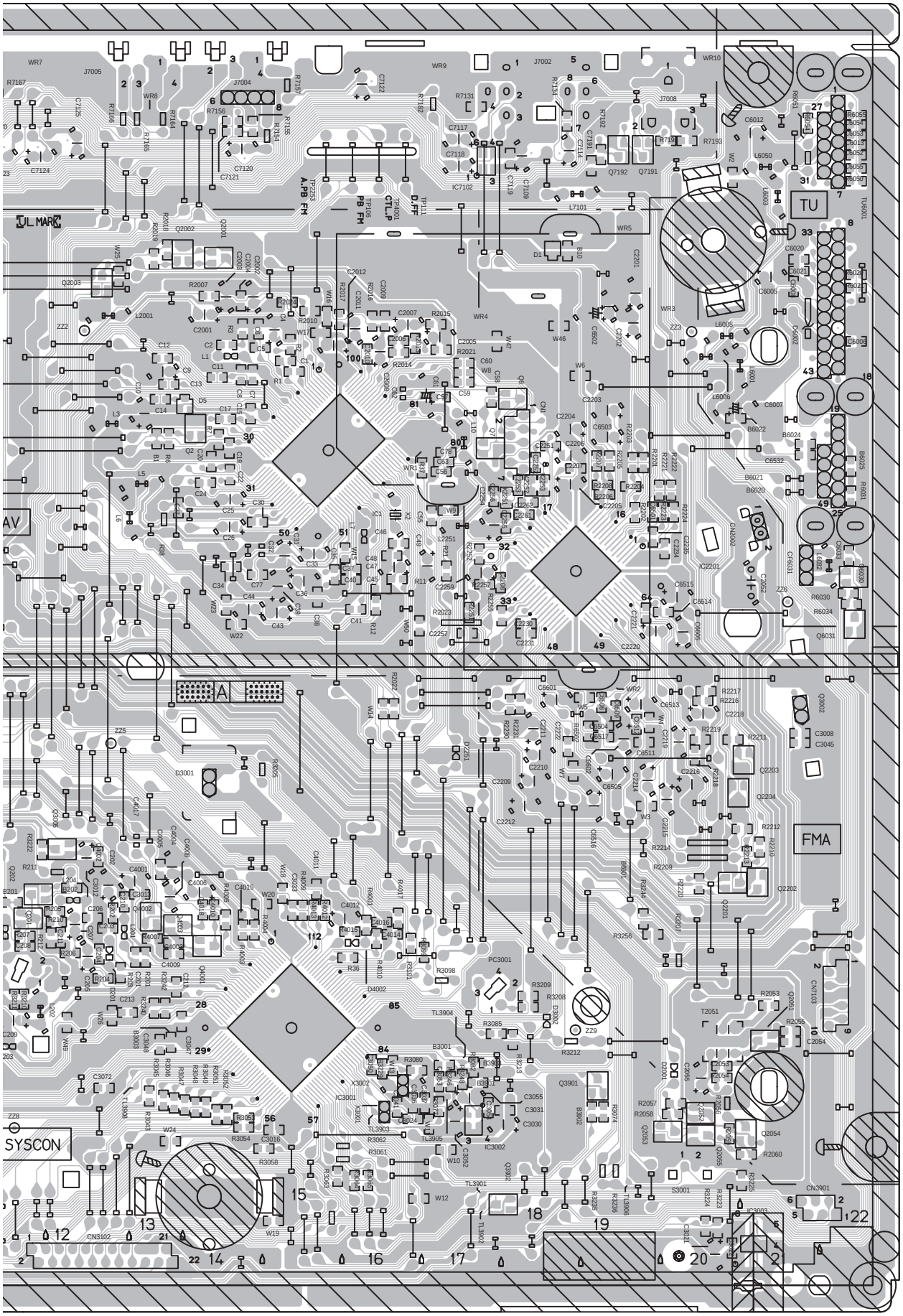
e10054001a_rev0

■ MAIN CIRCUIT BOARD

<03> MAIN
LPB10227-001C



CAUTION :
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE AND RATED FUSE(S).
ATTENTION :
REPLACER PAR DES FUSIBLE DE MEME TYPE.



COMPONENT PARTS LOCATION GUIDE <MAIN> LPB10227-001C

REF.NO.	LOCATION
CAPACITOR	
C1	B C 15L
C2	B C 14M
C4	A D 15M
C5	B C 14M
C6	B C 14M
C7	B C 14L
C8	B C 14L
C9	A D 13L
C10	A D 13L
C11	B C 14L
C12	B C 13L
C13	B C 13L
C14	B C 13L
C15	B C 14L
C17	B C 14L
C19	B C 14K
C20	B C 14K
C22	B C 14K
C24	B C 14K
C25	A D 14K
C26	A D 14J
C27	B C 13K
C30	B C 14J
C31	A D 15J
C32	A D 14J
C33	A D 15J
C34	B C 14J
C35	B C 15J
C36	A D 15J
C37	B C 16J
C38	B C 15I
C39	A D 15J
C40	B C 16J
C41	B C 16I
C43	A D 15I
C44	A D 14I
C45	B C 16J
C46	B C 16J
C47	A D 16J
C48	B C 16J
C49	A D 17J
C55	B C 17J
C56	B C 17K
C57	B C 17L
C58	B C 17L
C59	B C 17L
C60	B C 17L
C61	A D 17L
C62	A D 16L
C63	B C 17K
C77	B C 14J
C78	B C 17K
C201	B C 13E
C202	A D 13F
C203	B C 13E
C204	B C 12E
C205	A D 12E
C206	B C 12E
C207	A D 12E
C208	B C 12E
C209	A D 11D
C210	B C 13F
C211	B C 12E
C212	B C 13E
C213	B C 13D
C2001	A D 14M
C2002	A D 14M
C2003	A D 14M
C2004	B C 14M
C2005	A D 17M
C2006	B C 16M
C2007	A D 16M
C2008	A D 16L
C2009	B C 16M
C2010	B C 16M
C2011	A D 16M
C2012	A D 15M
C2051	B C 11M
C2052	A D 21I
C2053	B C 20D
C2054	B C 21D
C2055	A D 20C
C2201	A D 19M
C2202	A D 19M
C2203	A D 19L
C2204	A D 18L
C2205	A D 18K
C2206	A D 18K
C2207	B C 18K
C2208	B C 17J
C2209	A D 18G
C2210	A D 18G
C2211	A D 18H
C2212	A D 18G
C2214	A D 19G
C2215	A D 20G
C2216	A D 20G
C2218	A D 20H
C2219	A D 20H
C2220	A D 19I
C2221	B C 19I
C2222	B C 18H
C2230	B C 18I
C2231	B C 18I
C2234	B C 20J
C2235	B C 19J
C2251	B C 18K
C2252	B C 18K
C2253	B C 18K
C2254	A D 17J
C2255	B C 18J
C2256	B C 17K
C2257	B C 17I
C2259	A D 17J
C2261	B C 18J
C2262	B C 18K
C3008	B C 21H
C3011	A D 4C
C3012	A D 12F
C3013	B C 13F
C3014	A D 5C
C3016	B C 15C
C3021	A D 20A
C3022	B C 20A
C3024	B C 16C
C3030	A D 18C
C3031	B C 18C
C3033	B C 15F
C3036	B C 16C
C3037	B C 17C
C3041	B C 16C
C3045	B C 21H
C3046	B C 6H
C3047	B C 13D
C3048	B C 13D
C3050	B C 16D
C3052	A D 17C
C3053	B C 17C
C3054	B C 17C
C3055	A D 17C
C3056	B C 9J
C3071	A D 8J
C3072	B C 13C
C4001	A D 13F
C4002	B C 12F
C4003	B C 13E
C4004	A D 13F
C4005	B C 13F
C4006	A D 14F
C4008	A D 13F
C4009	B C 13E
C4010	B C 14F
C4011	B C 15F
C4012	A D 15E
C4014	B C 16E
C4015	B C 14E
C4016	B C 16E
C4017	A D 13F
C4018	B C 14F
C4031	A D 8J
C5001	A D 3P
C5002	A D 2P
C5003	A D 5O
C5004	A D 6L
C5006	A D 2N
C5101	A D 2M
C5102	A D 2N
C5104	A D 5N
C5105	A D 4M
C5106	B C 4L
C5107	A D 5M
C5108	B C 5M
C5109	B C 4M
C5201	A D 5K
C5202	A D 4I
C5204	A D 3I
C5205	A D 3I
C5207	A D 1I
C5209	A D 2H
C5210	A D 3H
C5211	A D 5I
C5213	A D 1J
C5214	B C 5K
C5302	A D 1H
C5303	A D 4G
C5304	A D 4G
C5305	A D 5G
C5306	B C 4G
C5307	B C 5G
C5308	B C 5F
C5309	A D 5F
C5310	A D 3G
C5311	A D 2E
C5312	A D 3F
C5313	A D 2E
C5314	A D 3F
C6005	A D 21M
C6006	B C 22M
C6007	A D 20L
C6008	B C 21M
C6012	A D 21O
C6013	B C 22O
C6020	B C 21N
C6021	B C 21N
C6033	B C 22J
C6052	B C 22O
C6053	B C 22O
C6054	B C 22O
C6055	B C 22O
C6501	B C 19K
C6502	A D 19M
C6503	A D 19K
C6504	B C 19H
C6505	A D 19G
C6508	B C 19H
C6509	B C 19H
C6511	B C 19H
C6512	B C 19H
C6513	A D 19H
C6514	B C 20I
C6515	A D 20I
C6516	A D 19G
C6517	B C 19H
C6532	B C 21K
C6601	A D 18H
C6602	A D 19H
C6605	A D 20I
C7109	A D 18O
C7114	A D 18O
C7117	A D 17O
C7118	A D 17O
C7119	B C 18O
C7120	A D 14O
C7121	B C 14O
C7122	A D 16P
C7123	A D 11O
C7124	A D 12O
C7125	A D 12O
C7126	B C 10K
C7128	A D 8M
C7129	B C 8M
C7130	B C 8L
C7131	B C 8L
C7132	B C 8L
C7133	A D 9L
C7134	B C 9L
C7135	B C 9K
C7136	B C 9L
C7137	B C 4E
C7138	B C 3E
C7139	B C 4E
C7140	B C 4E
C7141	B C 5E
C7191	B C 19O
C7201	B C 7E
C7202	B C 6E
C7203	B C 7E
C7204	B C 5D
C7205	A D 5D
C7501	A D 8O
C7502	B C 8O
C7503	A D 8O
C7504	B C 8O
C7505	B C 7P
C7506	B C 7O
C7507	A D 7O
C7508	B C 7P
C8001	A D 2D
C8002	A D 1D
C8003	B C 2C
C8004	B C 2D
C8005	B C 2D
C8006	B C 3D
C8007	A D 2C
C8008	A D 3D
C8009	B C 2C
C8010	B C 3C
C8051	A D 3D
C8052	A D 3C
C8053	B C 3C
C8201	A D 7B
C8202	B C 7B
C8203	B C 10B
C8301	A D 3B
C8302	B C 4A
C8303	B C 3A
CF6031	A D 21J
CONNECTOR	
CN1	A D 18K
CN2001	A D 11M
CN2002	A D 21J
CN3001	A D 9J
CN3102	A D 12A
CN3901	A D 22B
CN7103	A D 22E
CN7301	A D 1E
CN7302	A D 4E
CN7303	A D 4C
CN8301	A D 2A
DIODE	
D1	B C 18N
D5	B C 14L
D201	A D 13E
D2001	A D 20D
D2251	A D 17G
D3001	A D 14G
D3002	A D 18D
D3003	A D 4B
D3004	A D 3B
D3005	A D 5F
D4002	A D 16E
D5001	B C 1O
D5101	A D 2M
D5102	A D 2M
D5103	A D 5L
D5105	A D 5M
D5106	A D 5N
D5202	A D 4K
D5204	A D 1K
D5205	A D 2J
D5206	A D 2J
D5207	A D 4K
D5208	A D 2K
D5209	A D 1K
D5212	A D 4K
D5213	A D 2K
D5301	A D 3H
D5304	A D 2H
D5305	A D 4G
D5306	A D 5G
D5308	A D 3H
D5309	A D 3H
D5310	A D 4G
D5391	A D 6K
D5392	A D 3F
D5393	A D 3G
D6002	A D 21M
D8001	A D 4C
D8301	A D 5B
D8302	A D 5B
D8303	A D 4B
IC	
IC1	B C 15K
IC2201	B C 18J
IC3001	B C 15D
IC3002	B C 17C
IC3003	B C 21A
IC5201	A D 5K
IC5301	A D 3G
IC5302	B C 5G
IC7102	B C 17O
IC7104	B C 9L
IC7501	B C 8N
IC8001	B C 2D
IC8201	B C 8B
IC8202	B C 10C
IC8301	A D 5B
COIL	
L1	A D 14L
L3	A D 13L
L5	A D 13K
L6	A D 13J
L7	A D 16J
L10	A D 17K
L201	A D 13E
L202	A D 12D
L203	A D 11D
L204	A D 12F
L205	A D 11E
L2001	A D 12M
L2251	A D 17J
L4001	A D 8J
L5201	A D 3H
L5202	A D 2H
L5203	A D 4I
L5205	A D 2I
L5301	A D 3E
L5302	A D 2G
L5303	A D 2F
L6001	A D 21L
L6003	A D 21O
L6005	A D 21M
L6006	A D 20L
L6032	A D 22J
L6050	A D 21O
L7101	A D 19O
L7103	A D 10K
L7201	A D 7E
L7202	A D 5D
L7501	A D 8O
L7502	A D 7O
L8301	A D 1C
TRANSISTOR	
Q2	B C 14L
Q7	B C 17K
Q8	B C 18L
Q201	B C 12E
Q202	B C 12F
Q2001	B C 14N
Q2002	B C 14N
Q2003	B C 12M
Q2051	B C 21D
Q2052	B C 20C
Q2053	B C 20C
Q2054	B C 21C
Q2055	B C 20C
Q2201	B C 20F
Q2202	B C 21F
Q2203	B C 21G
Q2204	B C 20G
Q3001	A D 7H
Q3002	A D 21H
Q3004	B C 4B
Q3005	B C 12F
Q3901	B C 19C
Q3902	B C 18B
Q4001	B C 14E
Q4002	B C 13E
Q4003	B C 13E
Q5101	A D 4M
Q5102	A D 5L
Q5103	B C 5N
Q5304	A D 2H
Q5305	B C 1H
Q5306	A D 4H
Q5307	B C 1G
Q5308	B C 1G
Q5309	B C 1F
Q5310	A D 5H
Q5311	A D 2G
Q5315	A D 4F
Q5391	B C 7L
Q6030	B C 22J
Q6031	B C 22I
Q7113	B C 10L
Q7116	B C 10K
Q7191	B C 19O
Q7192	B C 19O
Q7201	B C 7E
Q7202	B C 6E
Q8001	B C 2C
Q8002	B C 3C
Q8052	B C 3C
Q8053	B C 3C
Q8301	B C 5B
RESISTOR	
R1	B C 15L
R2	B C 15M
R3	B C 14M
R6	B C 13K
R7	B C 14K
R11	B C 16J
R12	B C 16I
R21	B C 17J
R36	B C 16E
R37	B C 17K
R38	A D 13K
R201	B C 13E
R202	B C 13F
R203	B C 13E
R204	B C 13E
R205	B C 12F
R206	B C 12E
R207	B C 12E
R210	B C 12E
R211	A D 12F
R212	B C 12E
R2007	B C 14M
R2010	B C 15M
R2013	B C 16M
R2014	B C 16M
R2015	B C 17M
R2016	B C 16M
R2017	B C 15M
R2018	B C 13N
R2019	B C 13N
R2021	B C 17M
R2022	B C 16H
R2023	A D 17I
R2024	B C 15M
R2053	B C 21D
R2054	B C 20C
R2055	B C 21D
R2056	A D 20C
R2057	B C 20C
R2058	B C 20C
R2059	B C 20C
R2060	B C 21B
R2201	B C 19K
R2202	B C 19K
R2203	B C 19K
R2204	B C 19K
R2205	B C 19K
R2206	B C 19K
R2207	B C 19K
R2208	B C 19K
R2209	A D 20F
R2210	B C 21F
R2211	B C 20H
R2212	B C 21G
R2213	B C 21F
R2214	A D 20F
R2216	B C 20H
R2217	B C 20H
R2218	B C 20G
R2219	B C 20H
R2220	B C 20F
R2221	B C 19K
R2222	B C 20K
R2223	B C 20K
R2224	B C 20K
R2230	B C 18H
R2231	B C 18H
R2251	B C 17I
R2252	B C 17J
R2255	B C 18I
R2257	B C 17J
R3033	A D 11E
R3034	A D 11E
R3043	B C 13C
R3045	B C 13C
R3046	B C 13C
R3047	B C 14C
R3048	B C 14C
R3049	B C 14C
R3051	B C 14C
R3052	B C 14C
R3053	B C 14C
R3054	B C 14C
R3058	B C 15C
R3061	A D 15B
R3062	A D 15C
R3063	B C 15B
R3064	B C 16B
R3065	B C 16B
R3069	A D 15B
R3074	B C 19C
R3077	B C 17C
R3080	B C 16D
R3082	B C 17D
R3085	B C 17D
R3098	A D 17E
R3099	B C 17E
R3101	B C 16E
R3201	B C 10A
R3202	B C 10A
R3205	A D 15G
R3206	B C 9E
R3207	A D 20E
R3208	B C 18D
R3209	B C 18D
R3210	B C 12D
R3211	B C 11D
R3212	A D 19D
R3213	B C 18D
R3214	B C 9F
R3215	B C 10F
R3216	B C 10F
R3217	B C 10F
R3218	B C 3B
R3219	B C 4B
R3220	A D 5C
R3222	B C 12F
R3223	B C 20B
R3224	B C 20B
R3225	B C 21B
R3229	B C 16D
R3234	B C 10B
R3235	A D 19B
R3236	A D 19B
R3240	B C 13D
R3242	B C 13D
R3244	B C 19E
R3246	B C 17C
R3248	B C 17C
R3252	B C 8J
R3253	B C 8J
R3256	B C 19E
R4001	B C 16E
R4003	B C 14E
R4004	B C 14E
R4005	B C 14E
R4007	B C 13E
R4009	B C 15F
R4010	B C 16E
R4012	B C 15F
R4013	B C 15F
R4015	B C 16E
R4017	B C 16E
R5001	A D 4P
R5101	A D 4N
R5102	A D 4N
R5103	A D 5N
R5104	A D 2M
R5106	A D 3N
R5107	A D 5M
R5108	B C 5L
R5109	B C 4M
R5110	B C 4M
R5111	B C 4L
R5112	B C 5L
R5113	B C 5N
R5201	B C 4K
R5202	B C 4K
R5203	B C 5K
R5204	B C 5K
R5206	B C 5K
R5310	B C 1H
R5311	B C 4G
R5312	B C 1G
R5313	B C 1G
R5314	B C 1G
R5315	B C 1G
R5316	A D 4H
R5317	B C 1J
R5319	B C 2G
R5320	B C 3G
R5321	B C 2G
R5325	B C 4F
R5326	A D 5H
R5391	B C 6K
R6020	B C 22N
R6021	B C 22M
R6030	B C 22J
R6031	B C 22K
R6034	B C 22I
R6050	B C 22O
R6051	A D 21O
R6054	B C 21O
R6055	B C 22P
R6502	B C 19H
R7131	B C 17P
R7134	B C 18O
R7135	B C 10K
R7136	B C 10L
R7137	B C 10L
R7138	A D 10L
R7154	A D 15O
R7155	B C 14O
R7156	B C 14O
R7157	A D 15P
R7164	A D 13O
R7165	A D 13O
R7166	A D 13O
R7167	B C 11P
R7168	B C 11P
R7169	B C 10P
R7170	B C 11P
R7171	B C 10P
R7172	B C 11O
R7173	B C 5E
R7174	B C 5E
R7175	B C 3E
R7176	B C 3E
R7177	B C 4E
R7178	B C 4E
R7179	B C 4E
R7180	B C 4E
R7181	B C 10K
R7182	A D 17O
R7183	B C 5E
R7184	B C 5E
R7191	B C 20O
R7192	B C 19O
R7193	B C 20O
R7201	A D 8E
R7202	B C 7E
R7203	B C 7E
R7204	B C 6E
R7205	B C 6E
R7206	B C 6D
R7501	B C 7O
R7502	B C 8O
R7503	B C 8O
R7504	B C 8O
R7505	B C 8O
R7506	B C 8P
R7507	B C 7O
R8001	B C 2D
R8002	B C 2D
R8003	B C 1D
R8004	B C 2D
R8005	B C 1C
R8006	B C 3D
R8007	B C 2D
R8008	B C 2D
R8009	B C 2C
R8010	B C 2D
R8013	B C 2C
R8014	B C 3D
R8015	B C 2C
R8016	B C 3D
R8017	B C 2C
R8018	B C 3C
R8019	B C 3C
R8020	B C 3D
R8051	A D 3D
R8052	B C 2D
R8053	B C 2C
R8054	B C 3C
R8055	B C 3C
R8201	B C 8B
R8202	B C 10B
R8203	B C 10B
R8204	B C 9B
R8205	B C 6B
R8206	B C 6B
R8207	B C 7D
R8208	B C 7B
R8214	B C 7A
R8215	B C 7A
R8216	B C 8A
R8217	B C 9B
R8221	B C 9B
R8222	B C 9B
R8223	B C 9B
R8227	B C 9B
R8250	B C 8D
R8251	B C 8D
R8252	B C 7D
R8259	B C 6C
R8260	B C 6C
R8262	B C 6B
R8263	B C 6B
R8301	A D 3B
OTHER	
CP3002	B C 8I
CP3101	B C 5H
CP4002	B C 8J
CP5301	A D 2H
CP5302	A D 3F
CP5303	B C 2H
CP5304	B C 3F
F5001	A D 5O
FC5001	A D 5O
FC5002	A D 4O
J7002	A D 18P
J7004	A D 14P
J7005	A D 13P
J7006	A D 10P
J7008	A D 20P
J7009	A D 8P
J7010	A D 7P
JS3001	A D 10F
K2251	B C 18K
K2252	B C 18K
K2253	B C 18K
K5101	A D 4M
K5102	A D 1M
K7501	B C 7O
K7502	B C 8N
K7503	B C 8P
K8301	B C 6A
LF5002	A D 3O
PC085	B C 21A
PC01267	A D 5O
PC01268	A D 4P
PC02242	B C 2Q
PC02505	B C 22N
PC3001	A D 17E
PC3002	A D 11E
PC5101	A D 5L
S3001	A D 20B
T2051	A D 20D
T5001	A D 2L
TL3901	B C 17B
TL3902	B C 17B
TL3903	B C 16C
TL3904	B C 17D
TL3905	B C 17C
TL3906	B C 19B
TL3908	B C 13C
TP106	A D 16O
TP111	A D 16O
TP2253	A D 15O
TP4001	A D 16O
TU6001	A D 22P
VA5001	A D 4P
WR6	A D 1H
WR11	A D 2H
WR12	A D 3G
X2	A D 16K
X3001	A D 16C
X3002	A D 16C
X8201	A D 7B

■ VOLTAGE CHARTS

<MAIN>

MODE PIN NO.	REC	PLAY
IC1		
1	0	0
2	0	0
3	0	0
4	4.4	4.4
5	2.0	2.0
6	2.5	2.6
7	2.8	2.8
8	1.8	1.3
9	1.8	1.3
10	2.4	1.9
11	2.6	3.0
12	1.5	0.6
13	0	0
14	2.8	2.3
15	2.8	2.8
16	0	3.2
17	2.8	2.8
18	1.9	1.9
19	0	2.8
20	0	0
21	2.8	2.8
22	4.9	5.0
23	2.3	2.3
24	0	0
25	0	0
26	0	2.8
27	0	0
28	0	0
29	2.4	2.4
30	2.8	2.8
31	0.4	0
32	2.3	2.7
33	2.1	2.1
34	1.8	1.8
35	3.0	3.1
36	2.3	2.3
37	3.0	3.0
38	0	0
39	1.4	1.4
40	2.1	2.1
41	2.5	2.7
42	2.0	2.0
43	2.1	2.1
44	0	0
45	3.3	3.3
46	3.3	3.3
47	5.0	5.0
48	5.0	5.0
49	3.2	3.2
50	5.0	5.0
51	1.9	1.8
52	5.0	5.0
53	2.6	2.6
54	0	0
55	1.9	1.9
56	0	0
57	2.2	2.2
58	2.2	2.3
59	5.0	5.0
60	5.0	5.0
61	0	0
62	2.3	2.3
63	2.2	2.2
64	2.8	2.8
65	2.2	2.3
66	2.8	2.8
67	2.2	2.2
68	0	1.2
69	2.0	1.9
70	2.7	1.9
71	0	0
72	5.0	5.0
73	4.7	4.7
74	4.7	4.7
75	2.8	2.8
76	2.2	2.2
77	2.8	2.8
78	0	0
79	0.6	2.5
80	2.5	2.5
81	0	0
82	0	0
83	0	2.4
84	5.0	0
85	2.3	2.3
86	2.4	2.4
87	2.3	2.3
88	0	0
89	0	0
90	0	0
91	0	0
92	5.0	5.0
93	1.4	0.2
94	2.5	2.5
95	2.5	2.5
96	2.5	2.5
97	0	0

MODE PIN NO.	REC	PLAY
98	2.2	0
99	0	0
100	2.6	2.6
IC2201		
1	2.4	2.4
2	0	0
3	2.5	2.4
4	0	0
5	2.3	2.3
6	2.5	2.5
7	2.0	2.1
8	0.7	0
9	0	0
10	0	0
11	0	0
12	2.0	2.1
13	2.5	2.6
14	0	0
15	0	0
16	2.5	2.5
17	0.8	0.9
18	2.5	0
19	2.5	2.5
20	0	0
21	0	0
22	0	0.7
23	0	0
24	2.0	0.7
25	5.0	5.0
26	2.1	0
27	0	2.4
28	4.2	2.8
29	4.2	1.8
30	2.3	0.9
31	1.0	1.9
32	0	2.5
33	2.5	2.5
34	0.8	0.8
35	2.5	2.5
36	0	0
37	1.6	1.6
38	0	0
39	0	0
40	5.0	5.0
41	0	0
42	4.7	4.7
43	4.7	4.7
44	2.4	2.3
45	0	0
46	3.5	3.5
47	2.8	0
48	2.2	2.2
49	3.4	3.5
50	3.0	3.4
51	5.0	5.0
52	2.6	3.4
53	4.3	4.3
54	2.4	0
55	0	0
56	1.2	0
57	4.3	4.3
58	10.6	10.6
59	4.4	0
60	1.2	1.3
61	2.5	2.5
62	2.4	2.4
63	2.5	2.5
64	0.8	0.5
IC3001		
1	0	0
2	2.4	2.4
3	2.9	2.4
4	1.8	2.5
5	2.4	2.4
6	0	0
7	2.5	2.4
8	2.4	2.4
9	2.2	2.2
10	4.9	4.9
11	1.8	1.8
12	1.8	1.8
13	2.4	2.5
14	0.4	0.4
15	0.8	0.8
16	2.9	2.9
17	2.4	2.4
18	5.0	5.0
19	2.4	2.4
20	0	0
21	0	0
22	2.5	2.5
23	0	0
24	2.8	2.8
25	1.3	0
26	0	2.4
27	0	0
28	4.8	4.8
29	0	0

MODE PIN NO.	REC	PLAY
30	4.9	4.9
31	4.4	0
32	4.2	0
33	4.8	4.9
34	0	0
35	0	0
36	4.9	4.9
37	-	0
38	4.9	0
39	4.9	4.9
40	4.8	4.9
41	4.9	4.9
42	-	0
43	4.9	4.8
44	2.6	2.6
45	4.5	4.5
46	4.4	4.4
47	4.5	4.5
48	4.0	4.8
49	0	4.8
50	0	0
51	4.4	0
52	4.4	4.4
53	4.4	4.4
54	4.7	4.7
55	0	0
56	4.9	4.9
57	0	0
58	0	0
59	2.0	2.7
60	0	0
61	4.7	4.7
62	4.7	4.7
63	4.6	4.6
64	0.2	0
65	4.5	4.7
66	2.0	4.1
67	2.8	4.1
68	1.4	0
69	4.8	4.8
70	2.0	2.0
71	2.0	2.7
72	4.8	0
73	0.7	2.0
74	0	0
75	1.5	1.5
76	1.4	1.4
77	4.9	4.9
78	2.4	2.4
79	0	0
80	2.4	2.4
81	3.2	3.2
82	4.8	4.9
83	4.8	4.8
84	0	4.8
85	0	3.3
86	4.3	4.3
87	4.9	0
88	0	0
89	0	4.8
90	4.8	4.8
91	4.8	4.8
92	0	0
93	4.8	0
94	0	0
95	0	0
96	0	0
97	4.8	4.9
98	3.3	3.7
99	4.8	0
100	4.8	0
101	4.9	4.8
102	0	0
103	4.8	4.8
104	1.3	1.3
105	2.4	2.4
106	0	2.4
107	2.4	2.4
108	2.7	2.7
109	0	0
110	0	0
111	0.4	0.4
112	4.8	4.9
IC3002		
1	4.9	4.9
2	4.9	4.9
3	0	0
4	0	0
IC3003		
1	0	0
2	0	0
3	0	0
4	0	0
5	4.2	4.7
6	4.0	4.6
7	0	0
8	4.9	4.9

MODE PIN NO.	REC	PLAY
IC5201		
1	2.4	2.5
2	0	0
3	4.5	4.6
IC5301		
1	2.5	2.5
2	0	0
3	4.0	4.0
IC5302		
1	5.0	5.0
2	0	0
3	0	0
4	3.4	3.4
5	5.1	5.1
6	0	0
7	0	0
8	5.6	5.6
IC7102		
1	0	0
2	3.6	3.7
3	10.6	10.7
4	3.4	3.4
5	0	0
6	3.6	3.6
IC7104		
1	5.0	5.0
2	2.4	2.4
3	5.0	5.0
4	1.1	1.2
5	0	0
6	1.4	1.4
7	0	0
8	2.4	2.4
9	4.8	0
10	1.4	1.4
11	0	0
12	2.4	2.4
13	5.0	5.0
14	2.3	2.4
15	0	0
16	2.4	0
17	0	0
18	2.4	2.4
19	0	0
20	1.7	1.7
21	1.7	1.7
22	0	0
23	1.7	1.7
24	0	0
25	00	00
26	2.4	2.4
27	0	0
28	5.0	5.0
IC7501		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	1.6	1.6
9	3.2	3.2
10	1.6	1.6
11	1.6	1.6
12	1.6	1.6
13	3.2	3.2
14	3.2	3.2
IC8001		
1	5.3	5.3
2	5.3	5.3
3	5.3	5.3
4	0	0
5	5.3	5.3
6	5.3	5.3
7	5.3	5.3
8	10.6	10.6
IC8201		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	4.9	4.9
7	0	4.9
8	2.4	2.4
9	2.3	2.3
10	0	0
11	0	0
12	4.8	4.8
13	0	0
14	4.6	4.6
15	0.1	0.1
16	4.6	4.6
17	4.4	4.4
18	4.9	4.9
19	4.9	4.9
20	0	0

MODE PIN NO.	REC	PLAY
21	4.8	4.9
22	0	0
23	4.4	4.4
24	4.4	4.4
25	0	0
26	0	0
27	3.5	3.7
28	4.9	4.8
29	0	0
30	0	0
31	0	0
32	0	0
33	0	0
34	0	0
35	0	0
36	0	0
37	0	0
38	0	0
39	0	0
40	0	0
41	0	0
42	0	0
43	0	0
44	0	0
45	0	0
46	0	0
47	0	0
48	0	0
49	0	0
50	0	0
51	0	0
52	0	0
53	0	0
54	0	0
55	0	0
56	0	0
57	0	0
58	0	0
59	0	0
60	3.4	3.4
61	0	0
62	0	0
63	0	0
64	0	0
IC8202		
1	3.2	3.2
2	4.8	4.8
3	4.9	4.8
4	4.9	4.9
5	4.9	4.8
6	4.9	4.9
7	0	0
8	4.9	4.8
9	4.8	4.9
10	3.3	3.3
11	0	4.8
12	4.9	4.9
13	3.3	3.2
14	4.9	4.9
IC8301		
1	0	0
2	0.6	0.5
3	0.6	0.7
4	0.3	0.4
5	0	0
6	0	0
7	9.1	9.1
8	9.1	9.2
9	0.7	0.7
10	0.6	0.6
Q202		
E	1.7	1.7
C	5.1	5.0
B	2.4	2.4
Q2001		
E	-6.4	0
C	0	0
B	-14.7	0.7
Q2002		
E	-6.4	0
C	0	0
B	-14.5	0.7
Q2003		
E	5.0	5.1
C	-14.6	5.0
B	4.7	0
Q2051		
E	0	0
C	7.4	0.2
B	0.4	0.2
Q2052		
E	10.6	10.7
C	10.4	0.2
B	9.8	10.6
Q2053		
E	0	0
C	0	10.6
B	4.8	0

MODE PIN NO.	REC	PLAY
Q2054		
E	10.4	0.1
C	10.1	0.2
B	9.6	0
Q2055		
E	0	0
C	0	0
B	4.8	0
Q2201		
E	5.6	5.6
C	-1.1	-0.7
B	5.6	5.6
Q2202		
E	0	0
C	5.6	5.6
B	0	0
Q2203		
E	0	0
C	0	0
B	-1.0	-0.8
Q2204		
E	0	0
C	0	0
B	-1.0	-0.8
Q3001		
E	0	0
C	4.2	4.2
B	-	-
Q3002		
E	0	0
C	4.2	4.2
B	-	-
Q3004		
E	0	0
C	0	0
B	0.7	0.7
Q3005		
E	4.9	4.9
C	5.6	5.6
B	5.5	5.5
Q4001		
E	0	0
C	0	0
B	4.8	4.8
Q5101		
S	-2.4	-2.4
G	-1.3	-1.3
D	74.8	75.7
Q5102		
E	-2.4	-2.4
C	-1.4	-1.4
B	-2.4	-2.4
Q5103		
E	-1.3	-1.4
C	-2.4	-2.4
B	3.2	3.3
Q5306		
E	10.6	10.6
C	11.4	11.5
B	11.2	11.2
Q5307		
E	50.1	50.1
C	50.1	50.0
B	0	0
Q5309		
E	0	0
C	0	0
B	4.9	4.8
Q5310		
E	5.1	5.1
C	5.6	5.6
B	5.8	5.8
Q5311		
E	3..3	3..3
C	3.6	3.6
B	4.0	4.0
Q5315		
E	9.1	9.1
C	11.4	11.5
B	9.7	9.7
Q6030		
E	2.2	2.2
C	0	0
B	1.6	1.6
Q7113		
E	2.4	2.3
C	0	0
B	1.7	1.7
Q8001		
E	0	0
C	0	0
B	0.7	0.7
Q8002		
E	0	0
C	0	0
B	0.6	0.6
Q8052		
E	0	0

MODE PIN NO.	REC	PLAY
C	0	0
B	0.6	0.6
Q8053		
E	5.6	5.6
C	5.6	5.6
B	0	0
TU6001		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	0	0
28	4.8	4.8
29	5.0	5.0
30	4.8	4.8
31	3.6	3.6
32	-	-
33	1.9	1.9
34	0	0
35	0	0
36	4.1	4.8
37	4.1	4.8
38	2.8	2.8
39	2.9	2.9
40	2.3	2.4
41	32.5	32.4
42	0	0
43	1.5	1.5
44	-	-
45	-	-
46	-	-
47	-	-
48	-	-
49	-	-
CN1		
1	0	0
2	0	0
3	0	0
4	2.4	2.3
5	2.4	2.3
6	2.4	2.3
7	1.9	0
8	1.9	0
9	1.9	0
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	2.2	2.4
6	2.5	2.4
CN2002		
1	0	0
2	0	0
CN3001		
1	2.3	2.3
2	11.4	11.5
3	5.1	5.1
4	0	0
5	11.4	11.4
6	0	0
7	0	0
8	11.4	11.4
9	2.7	2.7
10	2.6	2.6
11	1.4	1.3
12	2.6	2.6
CN3102		
1	4.8	4.8
2	4.9	4.9
3	4.8	4.8
4	4.8	4.8
5	4.8	4.8
6	4.8	4.8
7	4.8	4.8
8	4.8	4.8

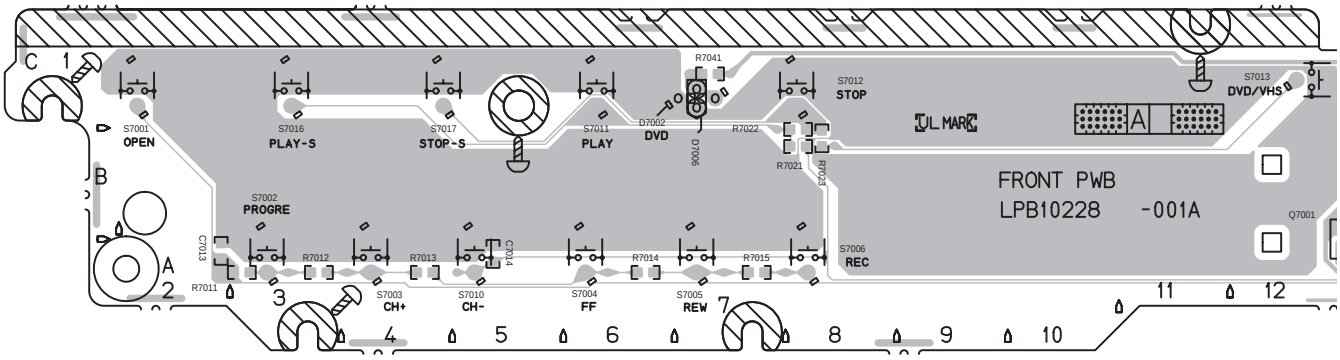
MODE PIN NO.	REC	PLAY
9	4.7	4.7
10	2.0	3.4
11	2.0	3.4
12	2.0	4.1
13	1.4	2.7
14	2.0	2.7
15	2.0	2.7
16	0.7	2.0
17	0	0
18	0	0
19	0	0
20	0	0
21	4.8	4.8
22	4.8	4.8
CN7301		
1	2.4	2.4
2	0	0
3	2.4	2.4
4	0	0
5	5.0	5.0
6	0	0
7	0	0
8	9.1	9.2
9	5.0	5.0
10	5.0	5.0
11	0	0
12	0	0
13	3.3	3.3
14	3.3	3.3
15	3.3	3.3
16	0	0
17	1.3	1.6
18	0	0
19	3.2	3.2
CN7302		
1	0.3	0.3
2	0	0
3	0.5	0.5
4	0	0
5	0.3	0.3
6	0	0
7	0.8	0.8
8	0	0
9	0.3	0.4
10	3.3	3.2
11	0	0
12	3.3	3.2
13	2.8	2.8
14	3.2	3.2
15	3.2	3.3
16	2.8	2.8
17	2.8	2.8
CN7103		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0.2	0.2
8	0	0
9	3.4	3.4
10	4.9	4.9
CN8301		
1	0.5	0.6
2	0.5	0.5
3	0	0
4	0	0
5	0	0
JS3001		
1	0	0
2	0	0
3	4.9	4.8
4	0	0
5	4.8	4.9

<DISPLAY,JACK>

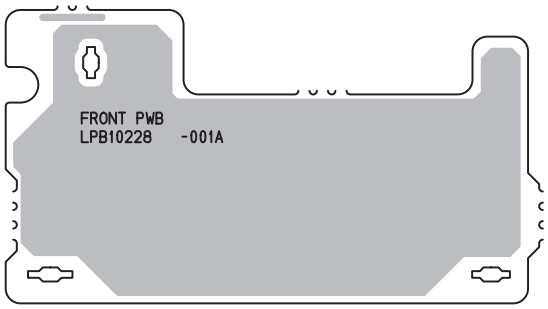
MODE PIN NO.	REC	PLAY
IC7002		
1	4.5	4.8
2	4.9	4.8
3	0	0
Q7001		
E	4.9	4.9
C	0.8	0.6
B	4.8	4.8
Q7002		
E	4.9	4.8
C	0.6	0.5
B	4.8	4.7
Q7003		
E	4.9	4.8
C	0.5	0.5
B	4.8	4.8
Q7004		
E	4.9	4.8
C	0.5	0.6
B	4.8	4.8
Q7005		
E	4.9	4.8
C	0.5	0.5
B	4.8	4.8
Q7006		
E	4.9	4.8
C	0.5	0.5
B	4.8	4.8
Q7007		
E	4.9	4.8
C	0.9	1.0
B	4.7	4.7
Q7008		
E	0	0
C	1.6	0.8
B	0.3	0.5
Q7009		
E	0	0
C	1.6	0.8
B	0.3	0.6
Q7010		
E	0	0
C	1.1	1.0
B	0.4	0.4
Q7011		
E	0	0
C	1.9	1.0
B	0.2	0.4
Q7012		
E	0	0
C	1.6	1.0
B	0.3	0.5
Q7013		
E	0	0
C	1.6	1.0
B	0.3	0.4
Q7014		
E	0	0
C	2.3	1.5
B	0	0.3

■ DISPLAY, JACK, DVD BRACKET SWITCH AND DVD SERVO CONTROL CIRCUIT BOARDS

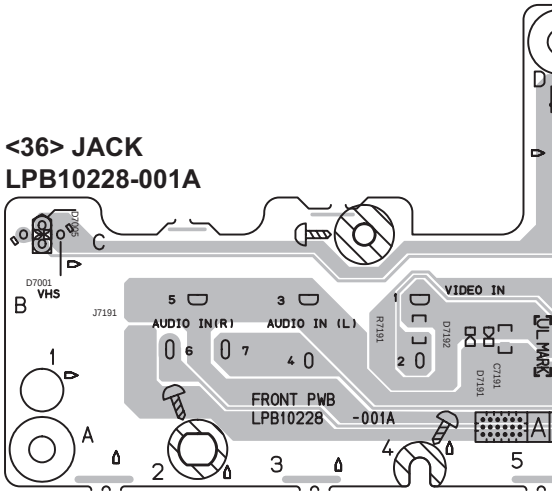
<28> DISPLAY
LPB10228-001A



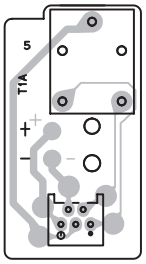
<31> DVD BRACKET
LPB10228-001A



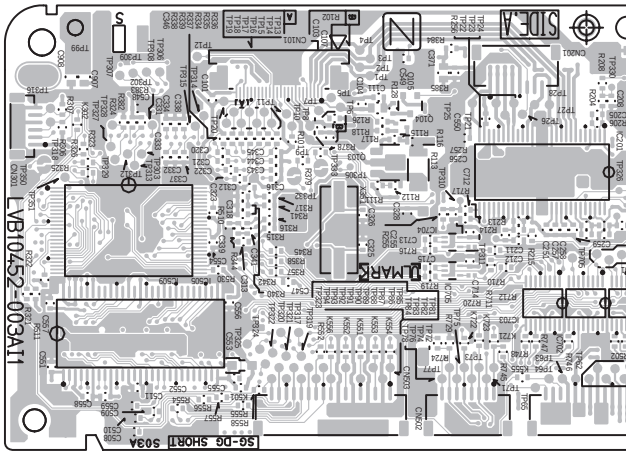
<36> JACK
LPB10228-001A

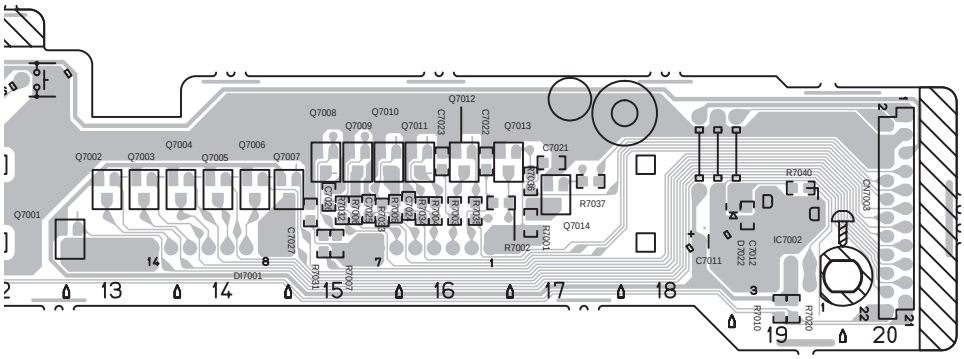


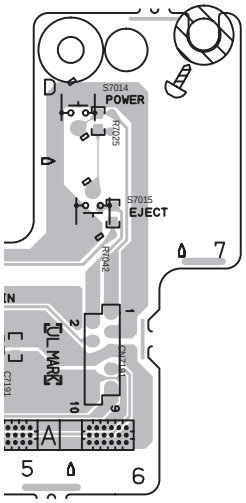
<98> SWITCH
LEB10070-001A



<99> DVD SERVO CONTROL
LVB10452-003A -COMPONENT





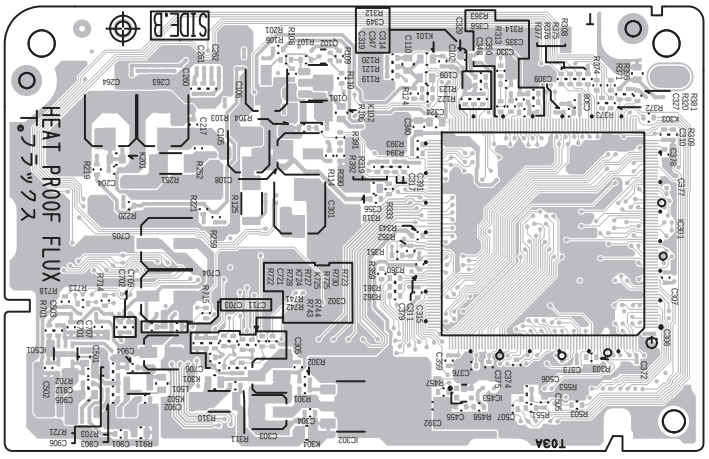


COMPONENT PARTS LOCATION GUIDE <DISPLAY, JACK> LPB10228-001A

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR				Q7004	B C 14B	R7005	B C 15B	R7034	B C 16B	S7006	A D 8A
C7011	A D 18A	DIODE		Q7005	B C 14B	R7006	B C 15B	R7035	B C 16B	S7010	A D 5A
C7012	B C 19B	D7001	A D 1C	Q7006	B C 14B	R7007	B C 15A	R7036	B C 17B	S7011	A D 6C
C7013	B C 2A	D7002	A D 7C	Q7007	B C 15B	R7010	B C 19A	R7037	B C 17B	S7012	A D 8C
C7014	B C 5A	D7005	A D 1C	Q7008	B C 15B	R7011	B C 3A	R7040	B C 19B	S7013	A D 12C
C7021	B C 17B	D7006	A D 7C	Q7009	B C 15B	R7012	B C 3A	R7041	B C 7C	S7016	A D 3C
C7022	B C 16B	D7022	B C 19B	Q7010	B C 15B	R7013	B C 4A	R7042	B C 6C	S7017	A D 4C
C7023	B C 16B	D7191	A D 5B	Q7011	B C 16B	R7014	B C 6A	R7191	B C 4B	S7014	A D 6D
C7024	B C 16B	D7192	A D 5B	Q7012	B C 16B	R7015	B C 7A			S7015	A D 6C
C7025	B C 15B			Q7013	B C 17B	R7020	B C 19A	OTHER			
C7026	B C 15B	IC		Q7014	B C 17B	R7021	B C 8B	DI7001	A D 15B		
C7027	B C 15B	IC7002	A D 19B			R7022	B C 8B	J7191	A D 3B		
C7191	B C 5B			RESISTOR		R7023	B C 8B	S7001	A D 2C		
		TRANSISTOR		R7001	B C 17B	R7025	B C 6D	S7002	A D 3A		
CONNECTOR		Q7001	B C 13B	R7002	B C 16B	R7031	B C 15A	S7003	A D 4A		
CN7003	A D 20C	Q7002	B C 13B	R7003	B C 16B	R7032	B C 15B	S7004	A D 6A		
CN7191	A D 6B	Q7003	B C 13B	R7004	B C 16B	R7033	B C 15B	S7005	A D 7A		

<99> DVD SERVO CONTROL
LVB10452-003A

-FOIL SIDE-



■ CPU PIN FUNCTION

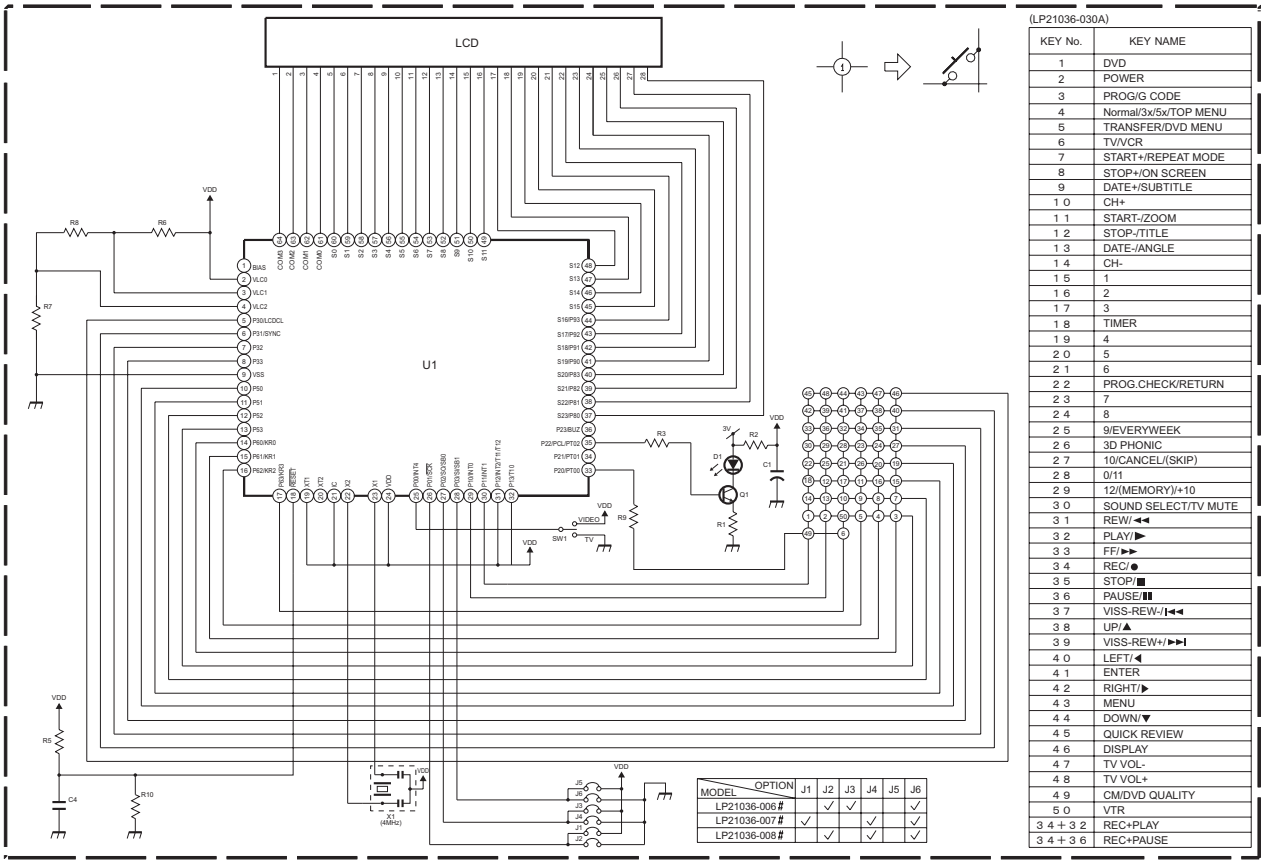
<SYSCON IC3001>

PIN NO.	LABEL	IN/OUT	FUNCTION
1	SVss	-	GND
2	CTLREF	-	CTL REFERENCE VOLTAGE
3	CTL(+)	IN/OUT	CTL(+) SIGNAL
4	CTL(-)	IN/OUT	CTL(-) SIGNAL
5	CTLBIAS	-	CTL BIAS VOLTAGE
6	NC	-	NC
7	CTLAMPOUT	OUT	CTL PULSE OUTPUT
8	CTLSMTIN	IN	CTL PULSE INPUT
9	CFG	IN	CAPSTAN FG PULSE INPUT
10	SVcc	-	SYSTEM POWER
11	AFCpc	OUT	AFC CLOCK(SYNC SEPARATOR FOR OSD/EXTERNAL CIRCUIT FOR AFC)
12	AFCosc	OUT	AFC CLOCK(SYNC SEPARATOR FOR OSD/EXTERNAL CIRCUIT FOR AFC)
13	AFCLPF	IN	FILTER OUTPUT FOR HORIZONTAL SYNCHRONIZING OF OSD CHARACTER
14	CSYNC/HSYNC	-	NC
15	VLPF/VSYNC	-	NC
16	CVIN2	IN	COMPOSITE VIDEO SIGNAL INPUT(2)
17	CVIN1	IN	COMPOSITE VIDEO SIGNAL INPUT(1)
18	OVCC	-	SYSTEM POWER
19	CVOUT	OUT	COMPOSITE VIDEO SIGNAL OUTPUT
20	OVSS	-	GND
21	NC	-	NC
22	FSCIN	IN	FSC INPUT FOR OSD
23	Avss	-	GND
24	BS_ANT/AFC	IN	TUNNING CHECK
25	LED	IN	LED CONTROL OF STEREO BROADCASTING MODE
26	VIDEO_ENV	IN	AUTO TRACKING DETECT/ INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
27	NC	-	NC
28	KEY2	IN	OPERATION CONTROL SIGNAL
29	START_SENSOR	IN	START SENSOR
30	KEY1	IN	OPERATION CONTROL SIGNAL
31	END_SENSOR	IN	END SENSOR
32	A.ENV/ND(L)	IN	AUDIO PB FM ENV.INPUT/NON HiFi MODE:L
33	LSD	IN	MECHANISM MODE DETECT(D)
34	LSC	IN	MECHANISM MODE DETECT(C)
35	S_DET	IN	HiFi/NORMAL AUDIO DETECTION
36	Avcc	-	SYSTEM POWER
37	SP_FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
38	JUST_CLK/CH_SW	OUT	RF CONVERTER CHANNEL SELECT
39	REC_SAFETY	IN	REC SAFETY SWITCH DETECT(SW ON:L)
40	NC	-	NC
41	NC	-	NC
42	TU_FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
43	SUB_RESET	OUT	DVD CPU RESET
44	LM_FR(LMC1)	OUT	LOADING MOTOR DRIVE
45	DIG1	OUT	LED DRIVE
46	DIG2	OUT	LED DRIVE
47	DIG3	OUT	LED DRIVE
48	12C_DATA	IN/OUT	SERIAL DATA TRANSFER CLOCK FOR TUNER
49	12C_CLK	OUT	SERIAL DATA TRANSFER OUTPUT FOR TUNER
50	NC	-	NC
51	DIG4	OUT	LED DRIVE
52	DIG5	OUT	LED DRIVE
53	DIG6	OUT	LED DRIVE
54	DIG7	OUT	LED DRIVE
55	CAP.M_F/R	OUT	CAPSTAN MOTOR REVERSE CONTROL(FWD:H/REV:L)
56	Vcc	-	SYSTEM POWER

PIN NO.	LABEL	IN/OUT	FUNCTION
57	Vss	-	GND
58	LSA	IN	MECHANISM MODE DETECT(A)
59	D_A	OUT	LED DRIVE
60	POWER_DET	IN	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
61	12C_CLK_AV	OUT	SERIAL DATA TRANSFER CLOCK FOR THE VIDEO/AUDIO IC
62	12C_DATA_AV	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE VIDEO/AUDIO IC
63	S.CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR DVD CPU
64	S.DATA_FR_SYS	OUT	SERIAL DATA TRANSFERMER OUTPUT FOR DVD CPU
65	S.DATA_TO_SYS	IN	SERIAL DATA TRANSFERMER INPUT FOR DVD CPU
66	D_B	OUT	LED DRIVE
67	D_C	OUT	LED DRIVE
68	D_D	OUT	LED DRIVE
69	BS_DIGI	-	NC
70	D_E	OUT	LED DRIVE
71	D_F	OUT	LED DRIVE
72	RC	IN	REMOTE CONTROL DATA INPUT
73	D_G	OUT	LED DRIVE
74	FWE	OUT	FLASH WRITE ENABLE
75	X2	-	TIMER CLOCK(32.768KHz)
76	X1	-	TIMER CLOCK(32.768KHz)
77	RES	-	RESET TERMINAL(RESET ON:L)
78	OSC1(IN)	-	MAIN SYSTEM CLOCK(10MHz)
79	Vss	-	GND
80	OSC2(OUT)	-	MAIN SYSTEM CLOCK(10MHz)
81	VCL	-	SYSTEM POWER
82	MODE	-	NC
83	HS_FFREW	OUT	HIGH SPEED FF/REW CONTROL
84	CONV.CTL[H]	OUT	RF CONVERTER DETECTION
85	SB_GAIN	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
86	PROTECT	IN	CONTROL SIGNAL FOR SWITCHING POWER SUPPLY
87	A.MUTE2[L]	OUT	AUDIO MUTE CONTROL FOR DVD AUDIO(MUTE:L)
88	SP_SHORT[H]	OUT	MODE SELECT
89	TU_V_MUTE[H]	OUT	TUNER VIDEO MUTE CONTROL(MUTE:H)
90	INT/PROG	OUT	INTERLACE/PROGRESSIVE SELECT
91	P.CTL[H]	OUT	POWER ON/OFF PULSE(POWER ON:H)
92	INT/PROG	OUT	INTERLACE/PROGRESSIVE SELECT
93	H.REC_ST(H)	OUT	HiFi AUDIO SOUND RECORDING START
94	A.MUTE(H)	OUT	AUDIO MUTE CONTROL(MUTE:H)
95	S1OUT	OUT	ADD THE DC BIAS TO S1 OUTPUT
96	NC	-	NC
97	NC	-	NC
98	SUB_REQ[L]	OUT	DVD CPU REQUEST:
99	N.REC[H]	OUT	NORMAL AUDIO REC MODE:H
100	N.REC_ST[H]	OUT	NORMAL AUDIO SOUND RECORDING START
101	LSB	IN	MECHANISM MODE SELECT(B)
102	DVD[H]	OUT	DVD MODE:H
103	CTL_GAIN	OUT	CONTROL AMP OUT FREQUENCY RESPONSE SWITCH IN
104	DFG	IN	DRUM FG PULSE INPUT
105	D.FF	OUT	ROTATION DETECTION SIGNAL FOR DRUM MOTOR/ TIMING CONTROL SIGNAL FOR REC
106	A.FF	OUT	AUDIO FF OUTPUT
107	DRUM_CTL_V	OUT	DRUM MOTOR CONTROL
108	CAP_CTL_V	OUT	CAPSTAN MOTOR CONTROL
109	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
110	Vss	-	GND
111	C.SYNC/V.REF	IN	DETECTION OF VIDEO SYNC SIGNAL
112	Vcc	-	SYSTEM POWER

■ REMOTE CONTROLLER SCHEMATIC DIAGRAM

NOTE :
1. All parts shown in this schematic are ciritical for sefety.
2. This schematic is only for reference.
   Avoid replacing individual parts.
   Replace the entire unite only.

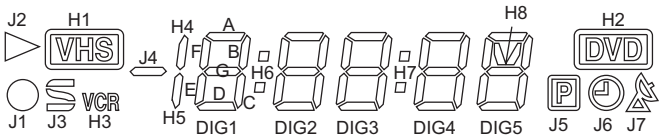


(LP21036-030A)

KEY No.	KEY NAME
1	DVD
2	POWER
3	PROG/G CODE
4	Normal/3x/5x/TOP MENU
5	TRANSFER/DVD MENU
6	TV/VCR
7	START+/REPEAT MODE
8	STOP+/ON SCREEN
9	DATE+/SUBTITLE
10	CH+
11	START-/ZOOM
12	STOP-/TITLE
13	DATE-/ANGLE
14	CH-
15	1
16	2
17	3
18	TIMER
19	4
20	5
21	6
22	PROG.CHECK/RETURN
23	7
24	8
25	9/EVERYWEEK
26	3D PHONIC
27	10/CANCEL/(SKIP)
28	0/11
29	12/(MEMORY)/+10
30	SOUND SELECT/TV MUTE
31	REW/◄◄
32	PLAY/►
33	FF/►►
34	REC/●
35	STOP/■
36	PAUSE/▮▮
37	VISS-REW-/▮◄◄
38	UP/▲
39	VISS-REW+/►►▮
40	LEFT/◄
41	ENTER
42	RIGHT/►
43	MENU
44	DOWN/▼
45	QUICK REVIEW
46	DISPLAY
47	TV VOL-
48	TV VOL+
49	CM/DVD QUALITY
50	VTR
34+32	REC+PLAY
34+36	REC+PAUSE

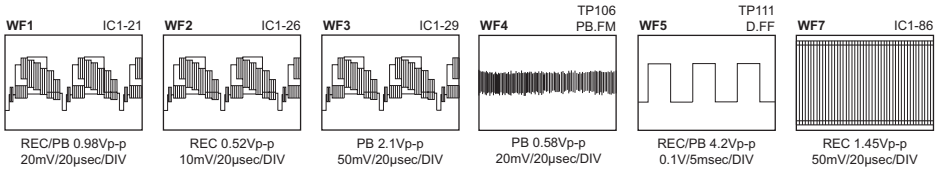
MODEL \ OPTION	J1	J2	J3	J4	J5	J6
LP21036-006#		✓	✓			✓
LP21036-007#	✓			✓		✓
LP21036-008#		✓		✓		✓

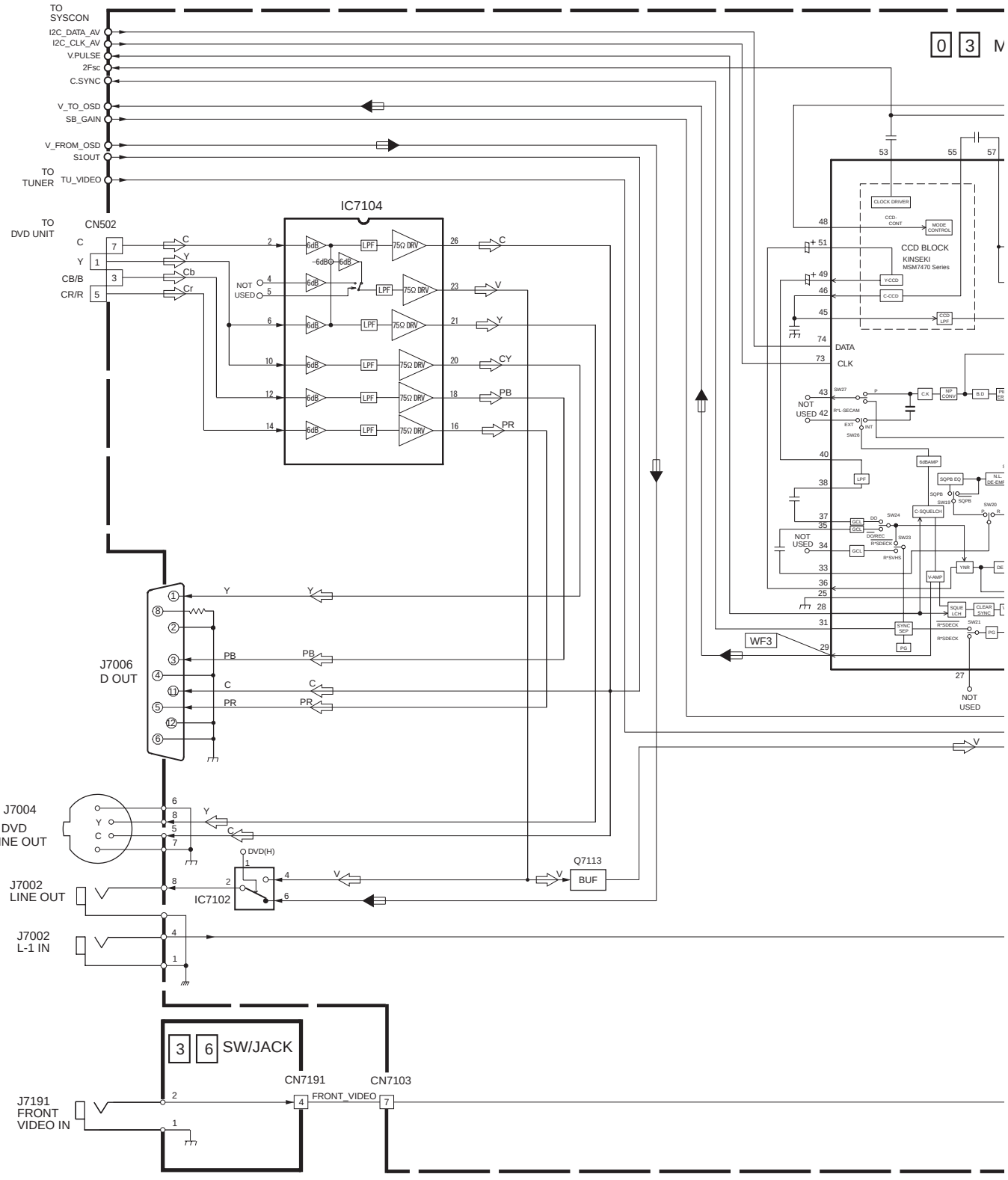
■ FDP GRID ASSIGNMENT AND ANODE CONNECTION

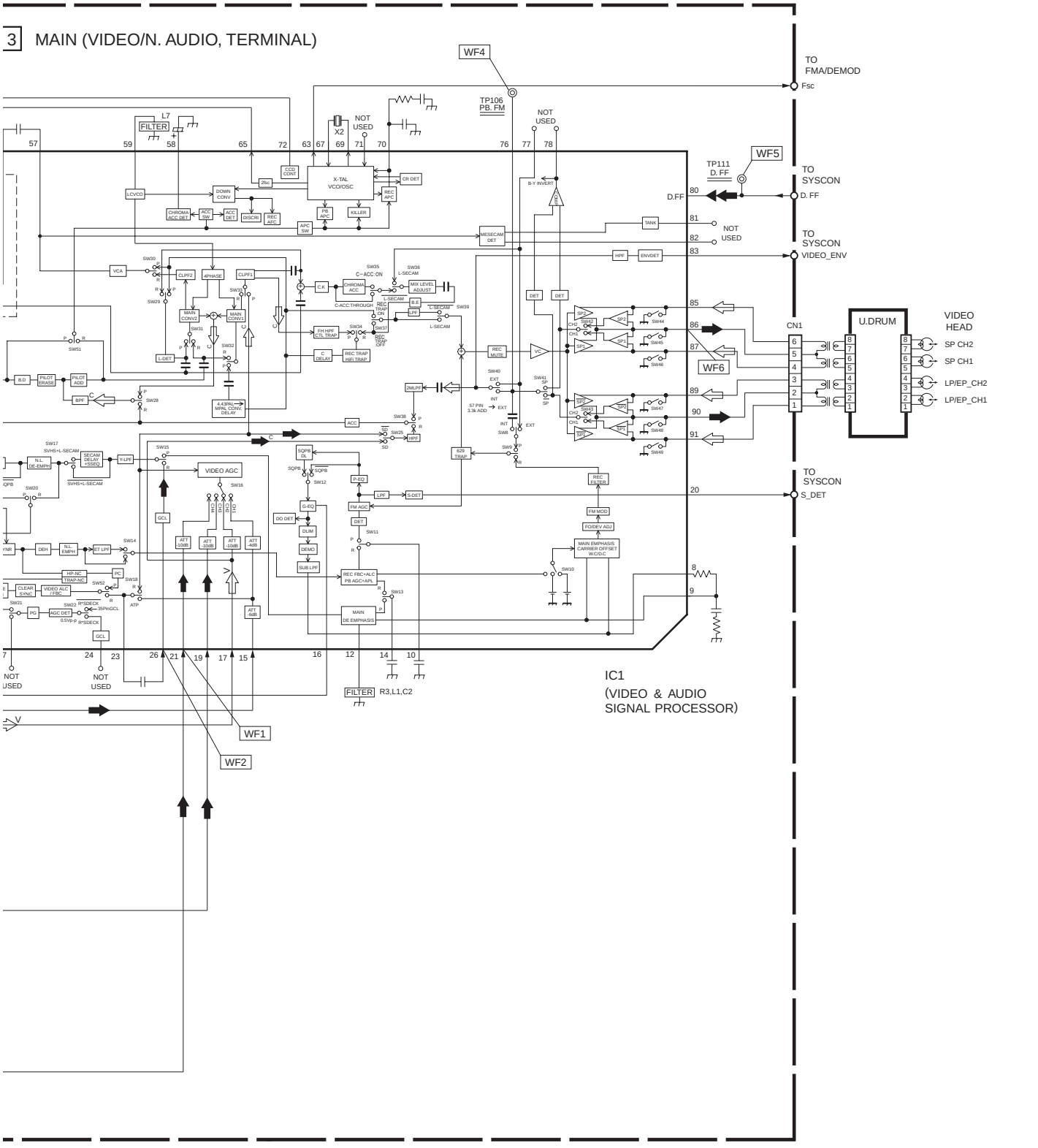


No.	CONNECTION
1	Cathode G, J7, H8
2	Cathode F, J6, H7
3	Cathode E, J5, H6
4	Cathode D, J4, H5,H4
5	Cathode C, J3, H3
6	Cathode B, J2, H2
7	Cathode A, J1, H1
8	Anode H1~H8
9	Anode J1~J7
10	Common Anode Digit5
11	Common Anode Digit4
12	Common Anode Digit3
13	Common Anode Digit2
14	Common Anode Digit1

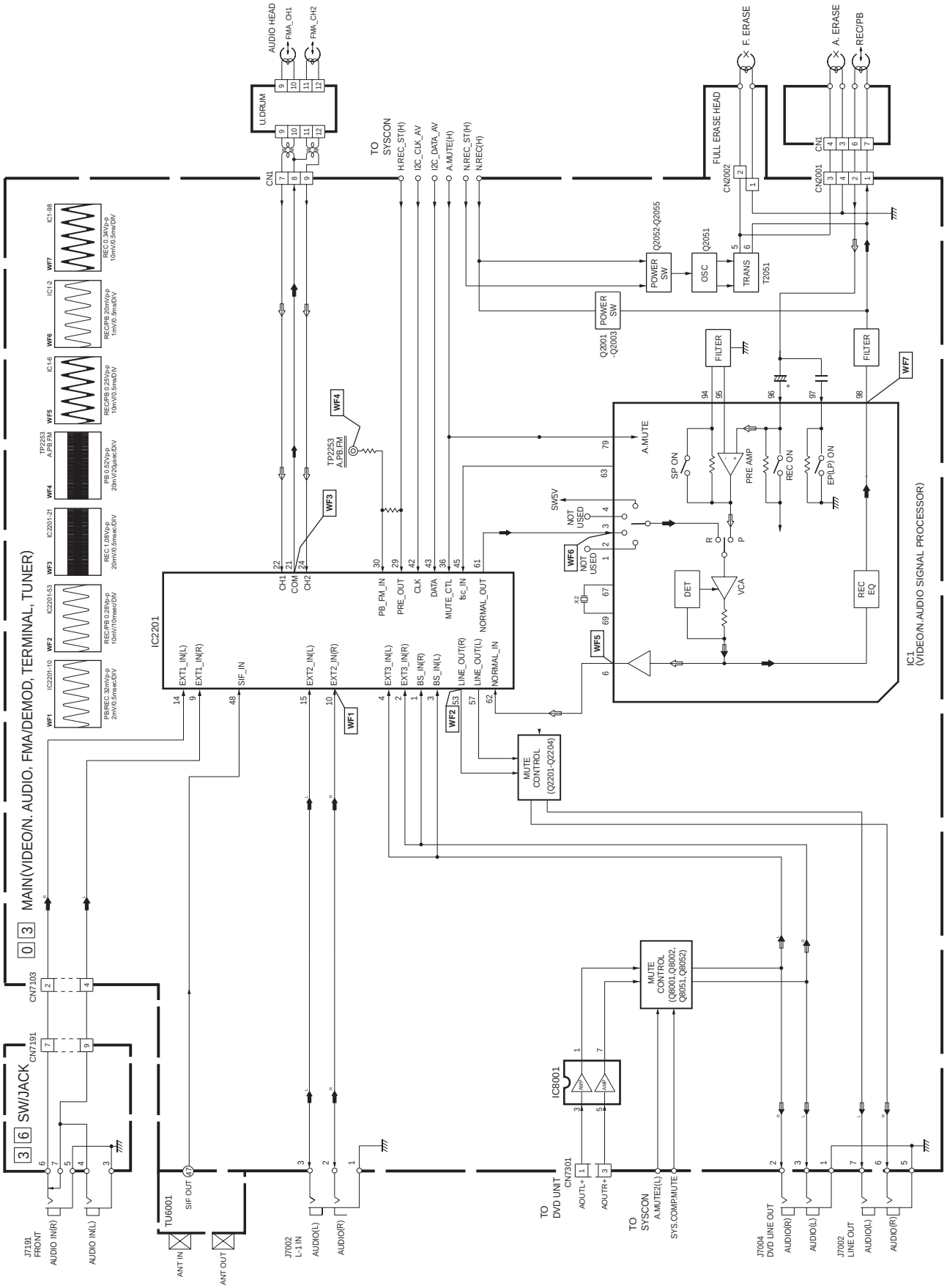
■ VIDEO BLOCK DIAGRAM



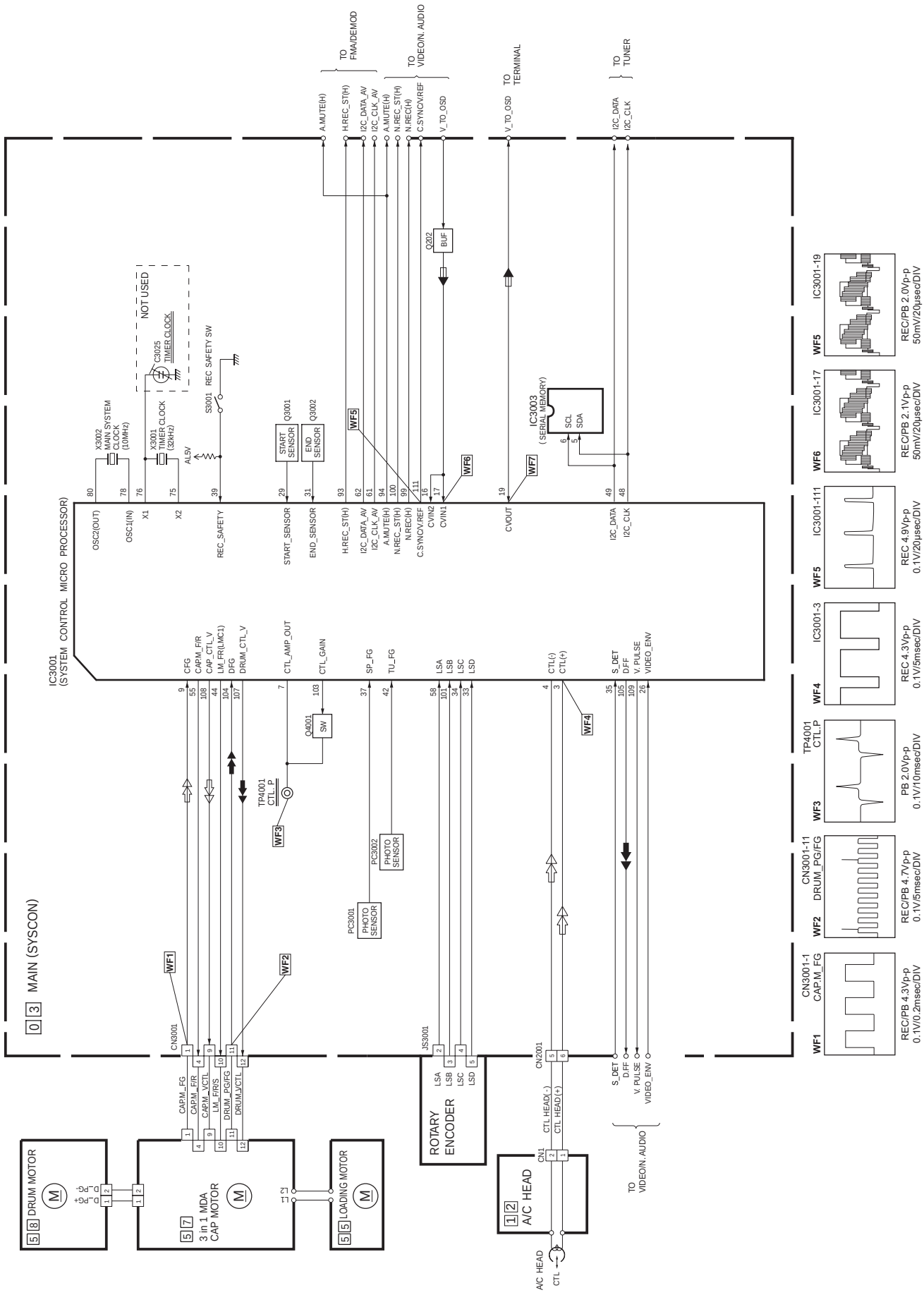



3 MAIN (VIDEO/N. AUDIO, TERMINAL)
WF4
TO FMA/DEMOD
Fsc
TP106 PB. FM
NOT USED
X2
L7
FILTER
TP111 D. FF
WF5
TO SYSCON
D. FF
D.FF
NOT USED
TO SYSCON
VIDEO_ENV
TO SYSCON
S_DET
WF6
CN1
U.DRUM
VIDEO HEAD
SP CH2
SP CH1
LP/EP_CH2
LP/EP_CH1
WF1
WF2
IC1
(VIDEO & AUDIO SIGNAL PROCESSOR)
FILTER R3,L1,C2

■ AUDIO BLOCK DIAGRAM



■ SYSTEM CONTROL BLOCK DIAGRAM



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WPC

PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

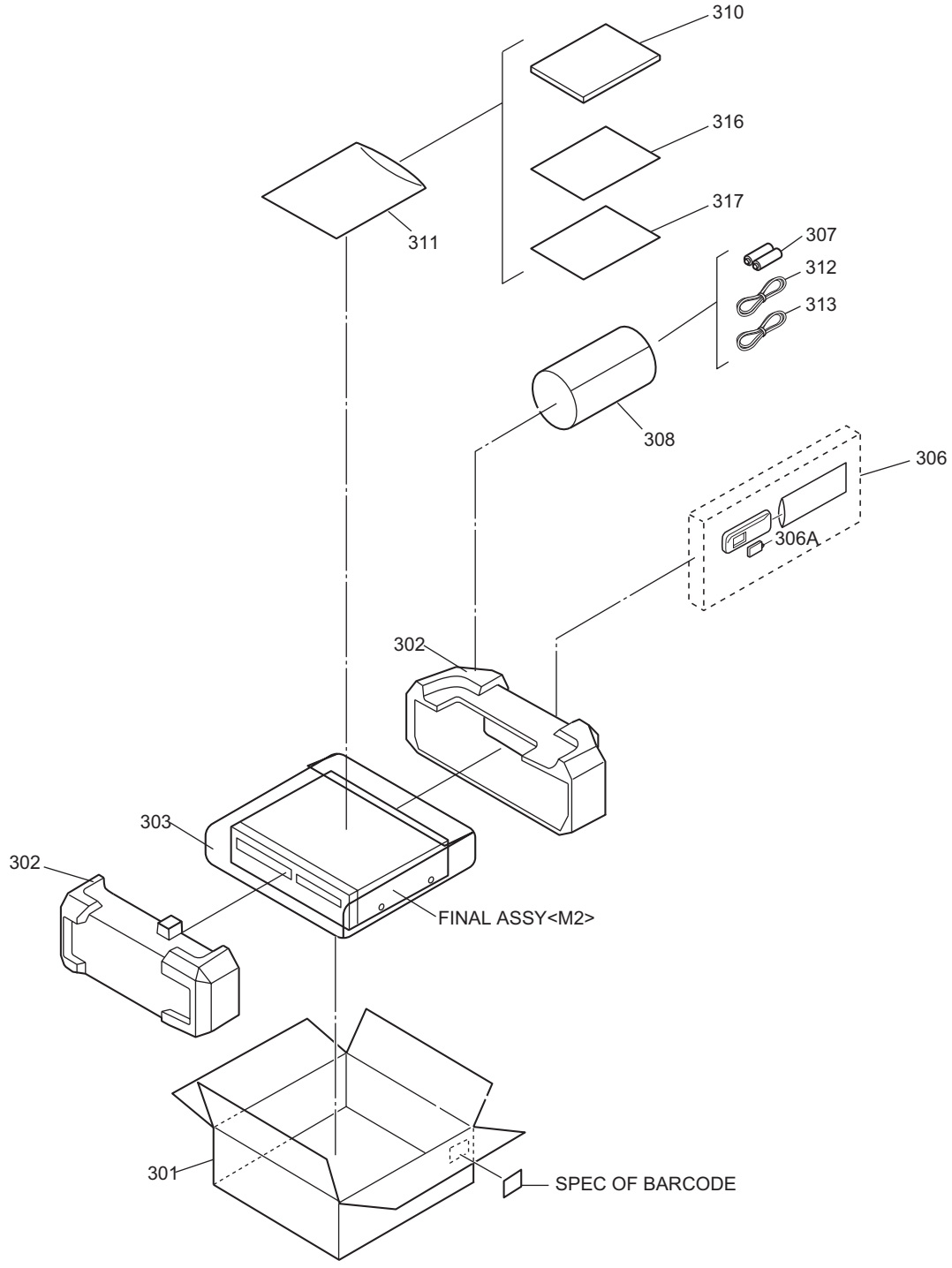
BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.

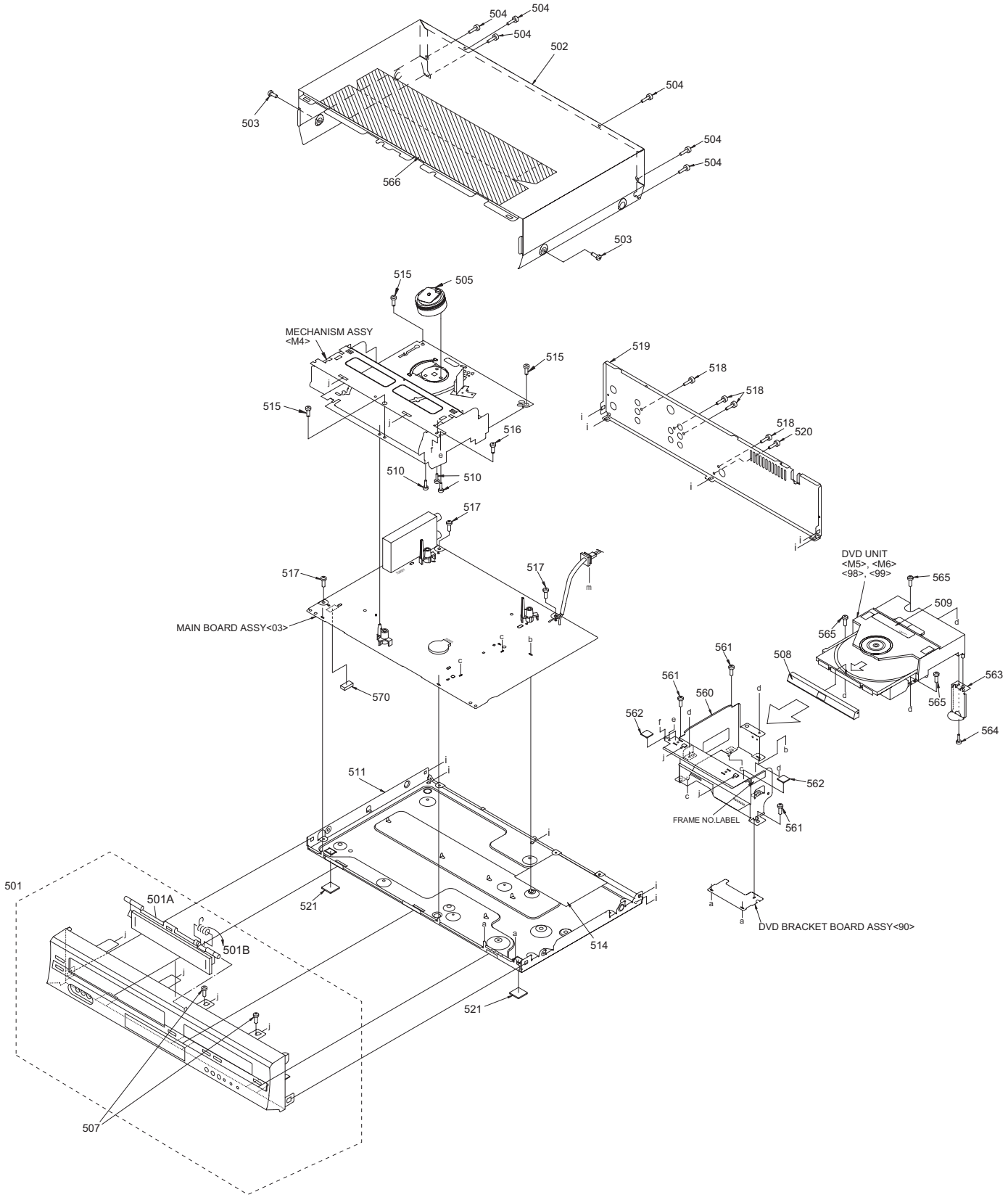
1. EXPLODED VIEW

1.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



1.2 FINAL ASSEMBLY <M2>



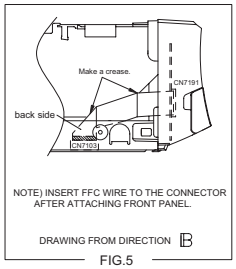


FIG.5

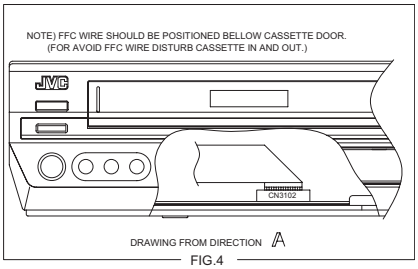
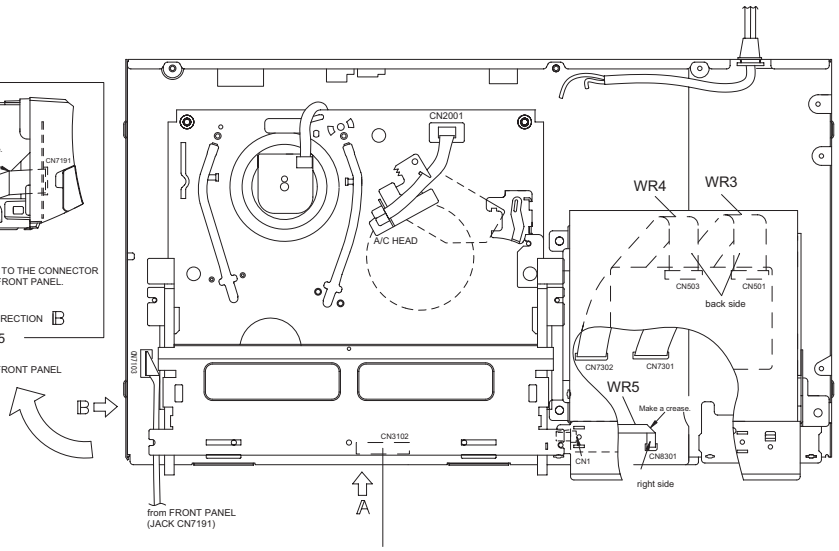

NOTE) FFC WIRE SHOULD BE POSITIONED BELLOW CASSETTE DOOR.
(FOR AVOID FFC WIRE DISTURB CASSETTE IN AND OUT.)
JVC
CN3102
DRAWING FROM DIRECTION A

FIG.4

After Assembling FRONT PANEL



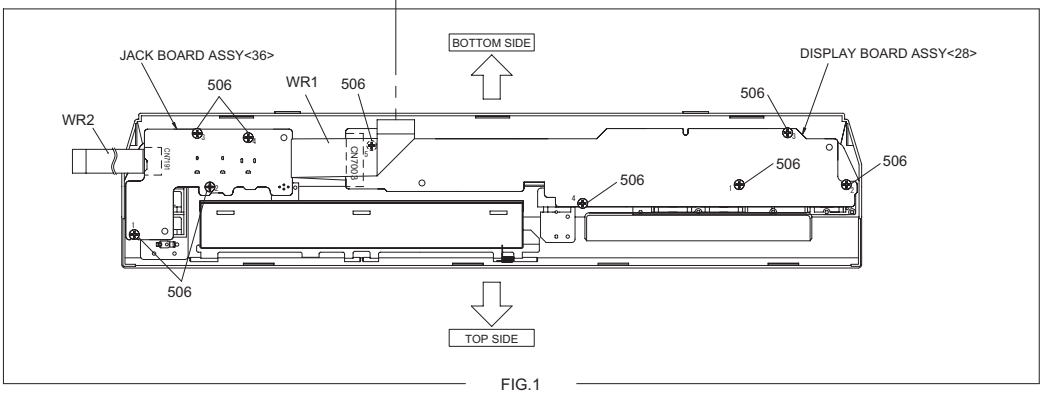
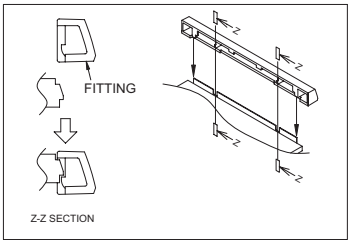
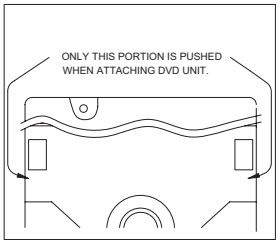
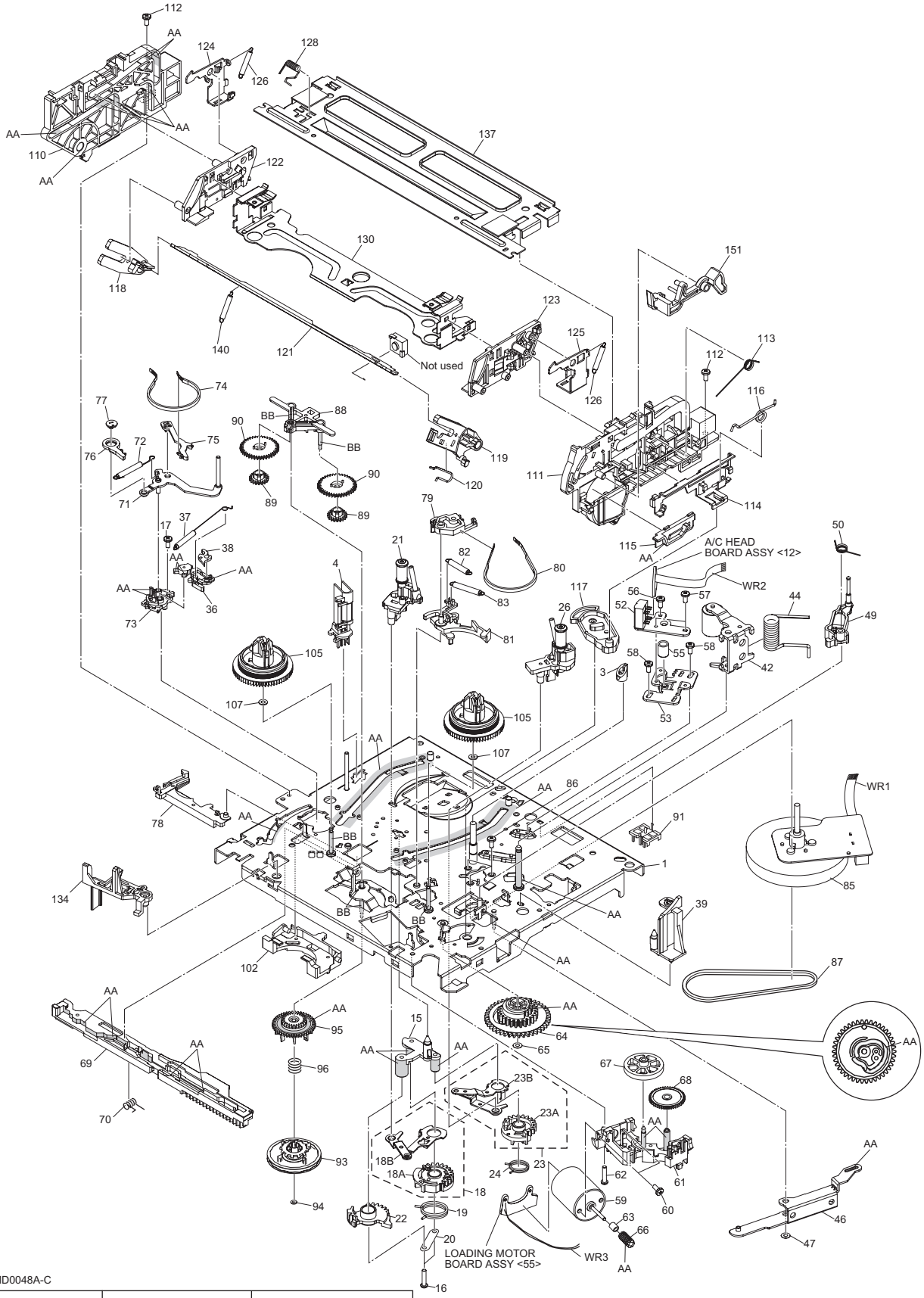


FIG.1





1.3 MECHANISM ASSEMBLY <M4>

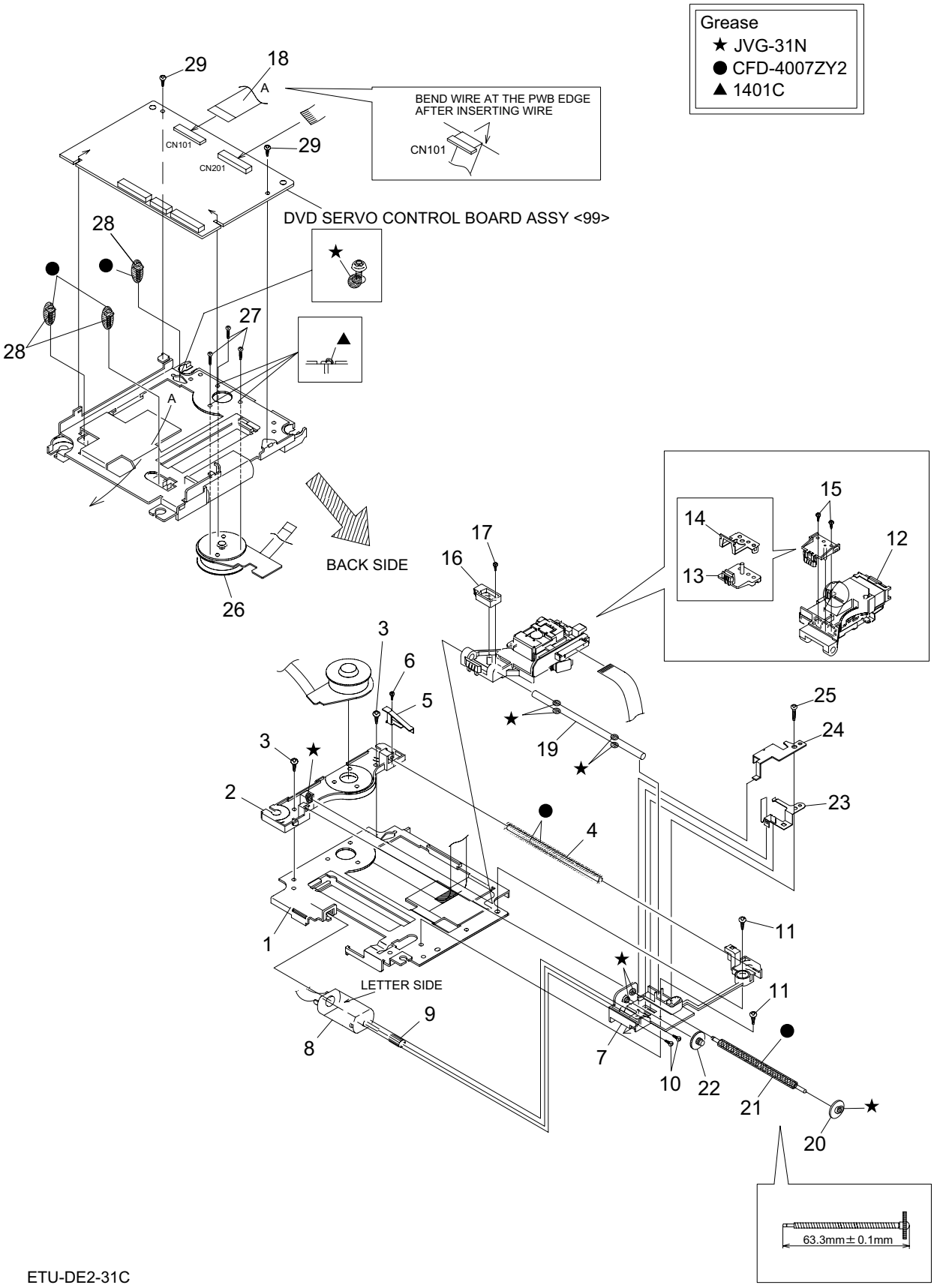


PMD0048A-C

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-JB	AA
Oil	COSMO-HV56	BB

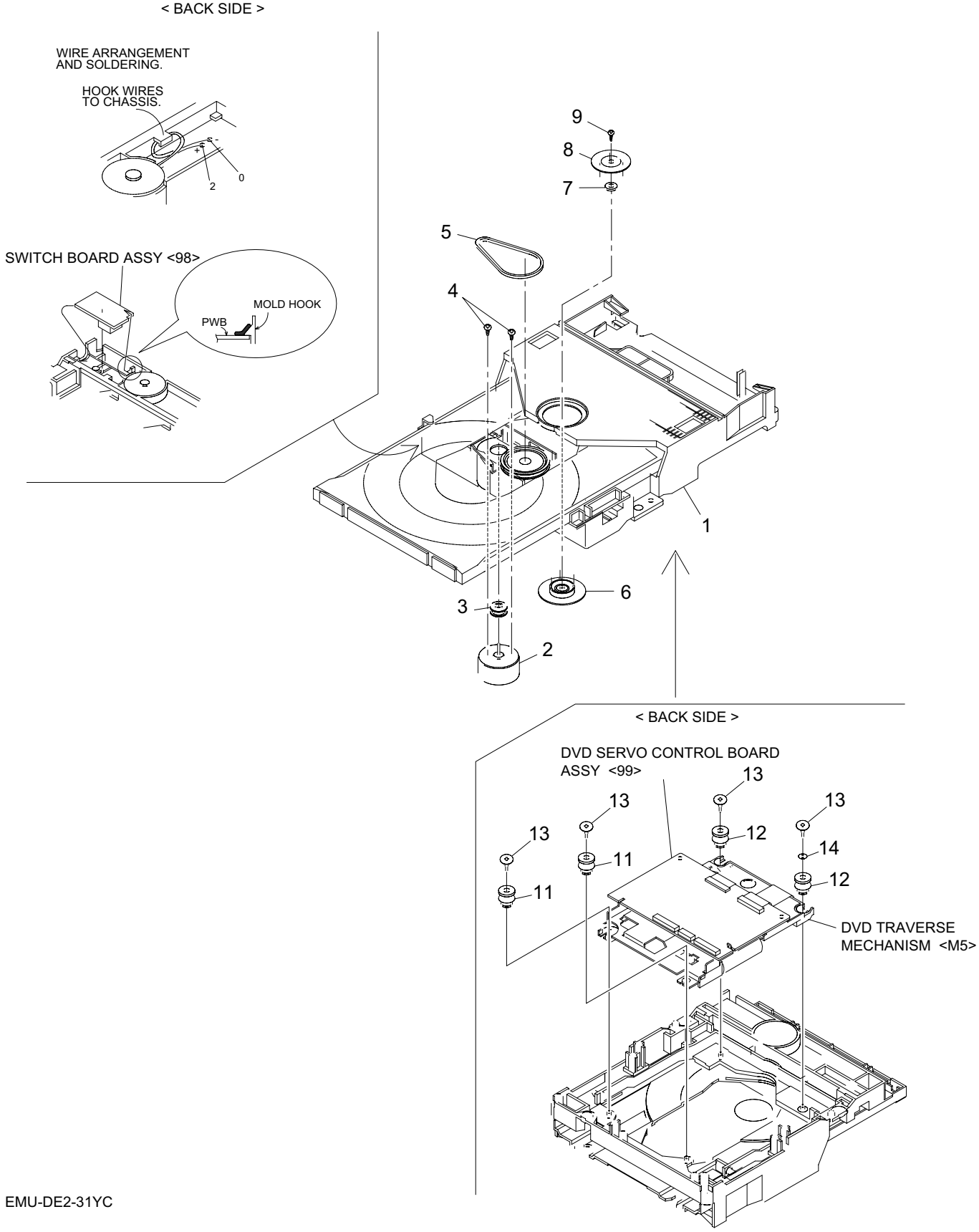
NOTE: The section marked in **AA** and **BB** indicate lubrication and greasing areas.

1.4 DVD TRAVERSE MECHANISM ASSEMBLY <M5>



ETU-DE2-31C

1.5 DVD LOADING MECHANISM ASSEMBLY <M6>



MODEL	MARK	MODEL	MARK
HR-XVC22UC	A	HR-XVC27UC	D
HR-XVC23UC	B	HR-XVC27US	E
HR-XVC26US	C		

2. PARTS LIST

PACKING AND ACCESSORY ASSEMBLY <M1>

⚠	Symbol No.	Part No.	Part Name	Description	Local
	301	LP31263-030A	PACKING CASE		A
	301	LP31263-032A	PACKING CASE		B
	301	LP31263-026A	PACKING CASE		C
	301	LP31263-028A	PACKING CASE		D,E
	302	LP31265-001D	CUSHION ASSY		
	303	LP41038-001A	POLY BAG		
	306	LP21036-038B	REMOCON		A,C
	306	LP21036-039B	REMOCON		B,D,E
	306A	LP40254-001B	COVER(BATTERY)		A,C
	306A	LP40254-009A	COVER(BATTERY)		B,D,E
	307	----------	BATTERY	R6 TYPE(x2)	
	308	QPC02202230P	POLY BAG	22cm x 22cm	
⚠	310	LPT0894-001A	INST.BOOK	(ENGLISH)	A
⚠	310	LPT0894-002A	INST.BOOK	(FRENCH)	A
⚠	310	LPT0895-001A	INST.BOOK	(ENGLISH)	B
⚠	310	LPT0895-002A	INST.BOOK	(FRENCH)	B
⚠	310	LPT0892-001B	INST.BOOK	(ENGLISH)	C
⚠	310	LPT0893-002A	INST.BOOK	(FRENCH)	D
⚠	310	LPT0893-001A	INST.BOOK	(ENGLISH)	D,E
	311	QPC02503530P	POLY BAG	25cm x 35cm	
	312	QAM0501-003	RF CABLE		
	313	QAM0498-005	A/V CABLE		A,B
	316	BT-52006-2	WARRANTY CARD		A,B,D
	317	BT-51034-1	REGIST CARD		C,E

FINAL ASSEMBLY <M2>

⚠	Symbol No.	Part No.	Part Name	Description	Local
⚠	501	LP10492-013A	FRONT PANEL ASSY		A
⚠	501	LP10492-014A	FRONT PANEL ASSY		B
⚠	501	LP10492-011A	FRONT PANEL ASSY		C
⚠	501	LP10492-012A	FRONT PANEL ASSY		D,E
	501A	LP21188-001A	CASSETTE DOOR		A,C
	501A	LP21188-002A	CASSETTE DOOR		B,D,E
	501B	PQ46448	TORSION SPRING		
⚠	502	LP10488-004B	TOP COVER		A,C
⚠	502	LP10488-002B	TOP COVER		B,D,E
	503	QYSBSG3006MA	TAP SCREW	M3 x 6mm TOP SIDE(x2)	A,C
	503	QYSBSG3006NA	TAP SCREW	M3 x 6mm TOP SIDE(x2)	B,D,E
	504	QYSBSG3006MA	TAP SCREW	M3 x 6mm TOP REAR(x6)	A,C
	504	QYSBSG3006NA	TAP SCREW	M3 x 6mm(x6)	B,D,E
	505	PDV2531D	DRUM FINAL ASSY		
	506	QYTDSF2608ZA	TAP SCREW	M2.6 x 8mm FRONT BOARD ASSY(x9)	
	507	LP40990-001A	SPECIAL SCREW	FRONT PANEL(x2)	A,B
	507	LP31391-001A	SPECIAL SCREW	FRONT PANEL(x2)	C,D,E
	508	LP21190-001A	FITTING		A,C
	508	LP21190-002A	FITTING		B,D,E
⚠	509	LP41077-002A	LABEL(CAUTION)		
	510	QYSPSPD3008ZA	SCREW	M3 x 8mm DRUM(x3)	
⚠	511	LP10489-001B	BOTTOM CHASSIS		
	514	LP30002-0F1A	SPACER		
	515	LP31391-002A	SPECIAL SCREW	MECHANISM(x3)	
	516	LP31391-001A	SPECIAL SCREW	HOUSING	
	517	LP31391-001A	SPECIAL SCREW	MAIN(x3)	
	518	QYTDSF3008MA	TAP SCREW	M3 x 8mm JACK(x4)	
⚠	519	LP21178-016B	REAR COVER		
	520	QYSBSG3006MA	TAP SCREW	M3 x 6mm REAR COVER	
	521	LP31348-001A	FOOT	(x2)	
	560	LP21177-001B	BRACKET(DVD)		
	561	LP31391-001A	SPECIAL SCREW	BRACKET(DVD)(x3)	
	562	LP30002-0E5A	SPACER	(x2)	
	563	LP31392-001A	BRACKET		
	564	QYSDSF2608ZA	TAP SCREW	M2.6 x 8mm DVD	
	565	QYSBSG3010ZA	TAP SCREW	M3 x 10mm DVD(x3)	
	566	LP31153-013A	STICKER(TOP)		A,B
	566	LP31153-012A	STICKER(TOP)		D
	566	LP31153-011A	STICKER(TOP)		C,E
	570	LP30002-0B7A	SPACER		
	WR1	QUQ112-2212CG	FFC WIRE	DISPLAY CN7003-MAIN CN3102	
	WR2	QUQ112-1010CG	FFC WIRE	JACK CN7191-MAIN CN3103	
	WR3	QUQ210-1916CC	FFC WIRE	DVD UNIT CN501-MAIN CN7301	
	WR4	QUQ210-1716CC	FFC WIRE	DVD UNIT CN503-MAIN CN7302	
	WR5	QUQ210-0510CC	FFC WIRE	DVD UNIT CN1-MAIN CN8301	

MECHANISM ASSEMBLY <M4>

⚠	Symbol No.	Part No.	Part Name	Description	Local
	1	LP21039-001X	MAIN DECK ASSY		A,D
	1	LP21039-001Y	MAIN DECK ASSY		B,C,E
	3	LP40097-002E	GUIDE POLE CAP		
	4	NAH0004-001	FE HEAD		
	15	LP30958-001B	LOADING GEAR BASE		
	16	QYTPST2620ZA	TAP SCREW	M2.6 x 20mm(x2)	
	17	QYTDST2606ZA	SCREW	M2.6 x 6mm	
	18	LP40798-001A	LOADING GEAR(SUPPLY) ASSY		
	18A	LP21040-001A	LOADING GEAR(SUPPLY)		
	18B	LP40799-001A	LOADING ARM(SUPPLY) ASSY		
	19	LP40837-001A	TORSION SPRING(SUPPLY)		
	20	LP40903-002B	FIXING PLATE		
	21	LP40806-001D	POLE BASE ASSY(SUPPLY)		
	22	LP30959-001B	LOADING GEAR		
	23	LP40802-001C	LOADING GEAR(TAKE UP) ASSY		
	23A	LP21041-001D	LOADING GEAR(TAKE UP)		
	23B	LP40803-001A	LOADING ARM(TAKE UP) ASSY		
	24	LP40838-001A	TORSION SPRING(TAKE UP)		
	26	LP40808-001E	POLE BASE ASSY(TAKE UP)		
	36	LP21055-001G	TAKE UP LEVER		
	37	LP40943-001A	TENSION SPRING		
	38	LP40859-001D	TAKE UP HEAD		
	39	LP30961-001C	LID GUIDE		
	42	LP40810-001C	PINCH ROLLER ARM ASSY		
	44	LP40840-001D	TORSION SPRING		
	46	LP30963-001C	PRESS LEVER		
	47	PQM30017-24	SLIT WASHER		
	49	LP40813-001D	GUIDE ARM ASSY		
	50	LP40841-001A	TORSION SPRING		
	52	NAH0005-001	AC HEAD		
	53	LP30965-001A	HEAD BASE		
	55	LP40842-001D	COMPRESSION SPRING		
	56	QYTDST2006MA	TAP SCREW	M2 x 6mm	
	57	LP41036-002A	A/C ADJ.SCREW	(x2)	
	58	QYTDST2606ZA	TAP SCREW	M2.6 x 6mm(x2)	
	59	QAR0289-001	LOADING MOTOR		
	60	QYTPSP3003ZA	SCREW	M3 x 3mm(x2)	
	61	LP21056-002J	MOTOR BRACKET		
	62	QYTPST2620ZA	TAP SCREW	M2.6 x 20mm	
	63	LP40814-001B	WORM BEARING		
	64	LP21044-001E	CONTROL CAM		
	65	PQM30017-24	SLIT WASHER		
	66	LP40815-001A	WORM GEAR		
	67	LP40816-001B	HELICAL GEAR		
	68	LP40817-001A	CONNECT GEAR		
	69	LP10400-001N	CONTROL PLATE		
	70	LP40843-001A	TORSION SPRING		
	71	LP40818-001B	TENSION ARM ASSY		
	72	LP40844-001F	TENSION SPRING		
	73	LP21045-001E	TENSION ARM BASE		
	74	LP40821-001A	TENSION BAND ASSY		
	75	LP30967-001B	BAND HOLDER-1		
	76	LP30968-001C	BAND HOLDER-2		
	77	LP40822-002B	ADJUST PIN		
	78	LP31000-005E	TENSION ARM LEVER		
	79	LP21046-001C	MAIN BRAKE(TAKE UP)		
	80	LP40824-001A	BAND BRAKE ASSY		
	81	LP30969-002B	BRAKE LEVER		
	82	LP30003-033B	TENSION SPRING		
	83	LP30003-035B	TENSION SPRING		
⚠	85	QAR0322-001	CAPSTAN MOTOR		
	86	QYTPSG2606ZA	TAP SCREW	M2.6 x 6mm(x3)	
	87	LP30005-010A	BELT	CAPSTAN MOTOR	
	88	LP30970-001A	IDLER ARM		
	89	LP40828-004A	IDLER GEAR 1	(x2)	
	90	LP40829-002A	IDLER GEAR 2	(x2)	
	91	LP31014-002A	WIRE HOLDER		

MODEL	MARK	MODEL	MARK
HR-XVC22UC	A	HR-XVC27UC	D
HR-XVC23UC	B	HR-XVC27US	E
HR-XVC26US	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
93	LP40934-001B	CLUTCH UNIT		
94	PQM30017-47	SLIT WASHER		
95	LP30973-001A	DIRECT GEAR		
96	LP40939-001A	COMPRESSION SPRING		
102	LP30974-001C	CHANGE LEVER		
105	LP21049-001A	REEL DISK	(x2)	
107	LP30017-004A	SPACER	REEL DISK(x2)	
110	LP10401-001L	SIDE FRAME(L)		
111	LP10402-001M	SIDE FRAME(R)		
112	QYTDST2606ZA	TAP SCREW	M2.6 x 6mm(x2)	
113	LP40917-001D	TORSION SPRING		
114	LP30976-001F	SIDE PLATE		
115	LP30977-002D	LIMIT PLATE		
116	LP40846-001C	LIMIT SPRING		
117	LP31100-002A	DRIVE LEVER		
118	LP30978-001B	DRIVE ARM(L)		
119	LP30979-001S	DRIVE ARM(R)		
120	LP40847-001B	TORSION SPRING		
121	LP30980-001F	CONNECT PLATE		
122	LP10403-001C	SIDE HOLDER(L)		
123	LP10404-001E	SIDE HOLDER(R)		
124	LP30983-001B	LOCK LEVER(L)		
125	LP30984-001B	LOCK LEVER(R)		
126	LP40924-001D	TENSION SPRING	(x2)	
128	LP40857-001B	EARTH SPRING(2)		
130	LP30981-001G	CASSETTE HOLDER ASSY		
134	LP21051-002C	REC SAFETY LEVER		
137	LP21052-001K	TOP FRAME		
140	LP41153-001A	EARTH SPRING(3)		
151	LP30985-002M	DOOR OPENER		
WR1	WJT0117-001A	E-CARD WIRE		
WR2	WJT0067-001B	E-CARD WIRE	A/C HEAD CN2001	
WR3	WJS0022-001A	E-FL/RB WIRE	LOADING MOTOR	

DVD TRAVERSE MECHANISM ASSEMBLY <M5>

⚠ Symbol No.	Part No.	Part Name	Description	Local
1	LE20727-001A	MECHA BASE		
2	LE20699-002A	SPINDLE BASE		
3	QYSDST2605M	TAP SCREW	M2.6 x 5mm(x2)	
4	LE40931-001A	SHAFT		
5	LV33991-001A	ADJUST SPRING		
6	QYSPSFU2040M	TAP SCREW	M2 x 4mm	
7	LE20698-004A	FEED HOLDER		
8	QAR0215-001	FEED MOTOR		
9	LV41510-001A	FEED GEAR T		
10	QYSPSPU2040M	SCREW	M2 x 4mm(x2)	
11	QYSDST2605M	TAP SCREW	M2.6 x 5mm(x2)	
12	QAL0507-001	PICK UP		
13	LE20700-001A	SW ACTUATOR		
14	LE31067-002A	LEAD SPRING		
15	QYSPSFU1740Z	TAP SCREW	M1.7 x 4mm(x2)	
16	LE40929-001A	SW.LEVER		
17	QYSPSFU1740Z	TAP SCREW	M1.7 x 4mm	
18	QUQ105-2411AC	FFC		
19	LE40931-001A	SHAFT		
20	LE40855-001A	FEED GEAR E		
21	LE40918-001A	LEAD SCREW		
22	LE40930-001A	FEED GEAR M		
23	LE40928-001A	THURUST SPRING		
24	LE40927-001A	PLATE		
25	QYSDST2614Z	TAPPING SCREW	M2.6 x 14mm	
26	QAR0316-001	SPINDLE MOTOR		
27	QYSPSPU1740Z	SCREW	M1.7 x 4mm(x3)	
28	LE40858-002A	SPECIAL SCREW	(x3)	
29	QYSDST2004Z	SCREW	2mm x 4mm(x2)	

DVD LOADING MECHANISM ASSEMBLY <M6>

⚠ Symbol No.	Part No.	Part Name	Description	Local
1	LE10283-012A	LOADER SUB ASSY		
2	QAR0197-001	MOTOR	MABUCHI	
3	LV42087-002A	MOTOR PULLEY		
4	QYSPSPU1730Z	SCREW	FOR MOTOR(x2)	
5	LE40897-001A	BELT		
6	LE31046-003A	CLAMPER		
7	LV42930-003A	P.C.MAGNET		
8	LE40899-001A	YOKE		
9	LE40906-001A	SPECIAL SCREW		
11	LE40900-003A	INSULATOR	(x2)	
12	LE40900-005A	INSULATOR	(x2)	
13	LE40901-001A	SPECIAL SCREW	(x4)	
14	QYWFM419025	WASHER	1.9mm/1.4mm x 0.02mm	

MAIN BOARD ASSEMBLY <03>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10227-02C	MAIN BOARD ASSY		A,B
PW1	LPA10227-01C	MAIN BOARD ASSY		C,D,E
IC1	JCP8060-NVA	IC		
⚠ IC2201	AN3663FBP	IC		
IC3001	HD6432199RB04F	IC(MCU)	MASK	
IC3002	IC-PST3427U-X	IC		
IC3003	LPN0864-002B-01	IC(EEPROM)	*(REFER TO BELOW)	A,B
IC3003	LPN0864-001B-02	IC(EEPROM)	*(REFER TO BELOW)	C,D,E
IC5201	UTCTL431-T	IC		
IC5201 or	MM1431AT-T	IC		
IC5201 or	L5431-T	IC		
IC5201 or	TL431/A/-T	IC		
IC5301	UTCTL431-T	IC		
IC5302	MM1565AF-X	IC		
IC7102	MM1507XN-X	IC		
IC7104	MM1623XF-X	IC		
IC7501	74VHCT08ASJ-X	IC		
IC8001	HA17558AF-X	IC		
IC8001 or	RC4558D-X	IC		
IC8201	MN101C30AJE	IC(MCU)		
IC8201 or	MN101CP30AJE	IC(MCU)		
IC8202	SN74HCT08APW-X	IC		
IC8301	LB1641	IC		
Q202	2SD601A/QRS/-X	TRANSISTOR		
Q202 or	2SC2412K/QRS/-X	TRANSISTOR		
Q202 or	2SC3928A/QRS/-X	TRANSISTOR		
Q2001	2SD601A/QRS/-X	TRANSISTOR		
Q2001 or	2SC2412K/QRS/-X	TRANSISTOR		
Q2001 or	2SC3928A/QRS/-X	TRANSISTOR		
Q2002	2SD601A/QRS/-X	TRANSISTOR		
Q2002 or	2SC2412K/QRS/-X	TRANSISTOR		
Q2002 or	2SC3928A/QRS/-X	TRANSISTOR		
Q2003	UN211E-X	DIGI TRANSISTOR		
Q2003 or	DTA144WKA-X	TRANSISTOR		
Q2003 or	RT1P44HC-X	DIGI TRANSISTOR		
Q2051	2SD601A/QRS/-X	TRANSISTOR		
Q2051 or	2SC2412K/QRS/-X	TRANSISTOR		
Q2051 or	2SC3928A/QRS/-X	TRANSISTOR		
Q2052	2SB709A/QR/-X	TRANSISTOR		
Q2052 or	2SA1037AK/QR/-X	TRANSISTOR		
Q2052 or	2SA1530A/QR/-X	SI TRANSISTOR		
Q2053	UN221E-X	TRANSTSTOR		
Q2053 or	DTC144WKA-X	DIGI TRANSISTOR		
Q2053 or	RT1N44HC-X	DIGI TRANSISTOR		
Q2054	2SB709A/QR/-X	TRANSISTOR		
Q2054 or	2SA1037AK/QR/-X	TRANSISTOR		
Q2054 or	2SA1530A/QR/-X	SI TRANSISTOR		
Q2055	UN221E-X	TRANSTSTOR		
Q2055 or	DTC144WKA-X	DIGI TRANSISTOR		
Q2055 or	RT1N44HC-X	DIGI TRANSISTOR		
Q2201	UN211E-X	DIGI TRANSISTOR		
Q2201 or	DTA144WKA-X	TRANSISTOR		

*The VCR goes to jig RCU mode after replacing the EEPROM and the VCR does not accept some RCU command.
Therefore please set the VCR to the user RCU mode after replacing the EEPROM.
The method of setting the VCR to the user RCU mode is written on the service manual.

MODEL	MARK	MODEL	MARK
HR-XVC22UC	A	HR-XVC27UC	D
HR-XVC23UC	B	HR-XVC27US	E
HR-XVC26US	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
Q2201	or RT1P44HC-X	DIGI TRANSISTOR		
Q2202	UN221E-X	TRANSTSTOR		
Q2202	or DTC144WKA-X	DIGI TRANSISTOR		
Q2202	or RT1N44HC-X	DIGI TRANSISTOR		
Q2203	2SD601A/QRS/-X	TRANSISTOR		
Q2203	or 2SC2412K/QRS/-X	TRANSISTOR		
Q2203	or 2SC3928A/QRS/-X	TRANSISTOR		
Q2204	2SD601A/QRS/-X	TRANSISTOR		
Q2204	or 2SC2412K/QRS/-X	TRANSISTOR		
Q2204	or 2SC3928A/QRS/-X	TRANSISTOR		
Q3002	PTZ-NV16A	IC(PHOTO SENSOR)		
Q3004	2SD601A/QRS/-X	TRANSISTOR		
Q3004	or 2SC2412K/QRS/-X	TRANSISTOR		
Q3004	or 2SC3928A/QRS/-X	TRANSISTOR		
Q3005	2SD601A/QRS/-X	TRANSISTOR		
Q3005	or 2SC2412K/QRS/-X	TRANSISTOR		
Q3005	or 2SC3928A/QRS/-X	TRANSISTOR		
Q4001	UN2211-X	TRANSISTOR		
Q4001	or DTC114EKA-X	TRANSISTOR		
Q4001	or RT1N141C-X	DIGI TRANSISTOR		
Q5101	2SK2043-CB14	FET		
Q5102	2SC3576-JVC-T	TRANSISTOR		
Q5103	2SB709A/QR/-X	TRANSISTOR		
Q5103	or 2SA1037AK/QR/-X	TRANSISTOR		
Q5103	or 2SA1530A/QR/-X	SI TRANSISTOR		
Q5306	2SD2144S/UV/-T	TRANSISTOR		
Q5307	UN211E-X	DIGI TRANSISTOR		
Q5307	or DTA144WKA-X	TRANSISTOR		
Q5307	or RT1P44HC-X	DIGI TRANSISTOR		
Q5309	UN2211-X	TRANSISTOR		
Q5309	or DTC114EKA-X	TRANSISTOR		
Q5309	or RT1N141C-X	DIGI TRANSISTOR		
Q5310	2SD1858/QR/-T	TRANSISTOR		
Q5311	2SC5739/QP/	TRANSISTOR		
Q5315	2SD1858/QR/-T	TRANSISTOR		
Q6030	2SB709A/QR/-X	TRANSISTOR		
Q6030	or 2SA1037AK/QR/-X	TRANSISTOR		
Q6030	or 2SA1530A/QR/-X	SI TRANSISTOR		
Q7113	2SA1037AK/QR/-X	TRANSISTOR		
Q7113	or 2SB709A/QR/-X	TRANSISTOR		
Q7113	or 2SA1530A/QR/-X	SI TRANSISTOR		
Q8001	2SD601A/QRS/-X	TRANSISTOR		
Q8001	or 2SC2412K/QRS/-X	TRANSISTOR		
Q8001	or 2SC3928A/QRS/-X	TRANSISTOR		
Q8002	2SD601A/QRS/-X	TRANSISTOR		
Q8002	or 2SC2412K/QRS/-X	TRANSISTOR		
Q8002	or 2SC3928A/QRS/-X	TRANSISTOR		
Q8052	2SD601A/QRS/-X	TRANSISTOR		
Q8052	or 2SC2412K/QRS/-X	TRANSISTOR		
Q8052	or 2SC3928A/QRS/-X	TRANSISTOR		
Q8053	UN2111-X	TRANSISTOR		
Q8053	or DTA114EKA-X	DIGI TRANSISTOR		
Q8053	or RT1P141C-X	DIGI TRANSISTOR		
D201	1SS133-T2	DIODE		
D2001	1SS133-T2	DIODE		
D2001	or 1SS270A-T2	SI DIODE		
D2251	1SS133-T2	DIODE		
D2251	or 1SS270A-T2	SI DIODE		
D3001	LNB2301L01VI	LED		
D3002	1SS133-T2	DIODE		
D3002	or 1SS270A-T2	SI DIODE		
D3003	RD33ES/B3/-T2	Z DIODE		
D3003	or MTZJ33C-T2	Z DIODE		
D3004	10EDB20-T2	SI DIODE		
D3004	or 1A3G-T2	SI DIODE		
D3005	10EDB20-T2	SI DIODE		
D3005	or 1A3G-T2	SI DIODE		
D4002	1SS133-T2	DIODE		
D5001	S1WB/A/60-4102	BRIDGE DIODE		
D5001	or S1WB/A/60-X	BRIDGE DIODE		
D5101	10EDB20-T2	SI DIODE		
D5101	or 1A3G-T2	SI DIODE		
D5102	10ERB40-T2	FR DIODE		
D5102	or AU01-T2	SI DIODE		
D5103	1SS133-T2	DIODE		
D5103	or 1SS270A-T2	SI DIODE		
D5105	1SS133-T2	DIODE		
D5105	or 1SS270A-T2	SI DIODE		
D5106	MTZJ33D-T2	Z DIODE		
D5106	or RD33ES/B4/-T2	Z DIODE		
D5208	1S4-T2	SB DIODE		
D5208	or AW04-T2	SB DIODE		
D5208	or SBO40-T2	SB DIODE		
D5209	PG104RS-T2	FR DIODE		
D5209	or 10ERB20-T2	FR DIODE		
D5209	or 1F4G-T2	FR DIODE		
D5209	or AU01Z-T2	FR DIODE		
D5209	or 1SR153-400-T2	FR DIODE		
D5212	SB240-F26	SB DIODE		
D5212	or RK14LF-B2	SBD		
D5212	or 21DQ04-F	SBD		
D5213	1F4G-T2	FR DIODE		
D5213	or 10ERB20-T2	FR DIODE		
D5301	MTZJ15C-T2	Z DIODE		
D5301	or RD15ES/B3/-T2	Z DIODE		
D5305	MTZJ11C-T2	Z DIODE		
D5305	or RD11ES/B3/-T2	Z DIODE		
D5306	MTZJ5.6C-T2	Z DIODE		
D5306	or RD5.6ES/B3/-T2	Z DIODE		
D5310	MTZJ10B-T2	Z DIODE		
D5310	or RD10ES/B2/-T2	Z DIODE		
D6002	HZ30-2L-T2	Z DIODE		
D6002	or HZ30-2LTD	Z DIODE		
D8001	1SS133-T2	DIODE		
D8001	or 1SS270A-T2	SI DIODE		
D8301	RD5.1ES/B2/-T2	Z DIODE		
D8301	or MTZJ5.1B-T2	Z DIODE		
PC3001	RPI-304J	IC(PHOTO SENSOR)		
PC3002	RPI-304J	IC(PHOTO SENSOR)		
⚠ PC5101	PC123Y22FZ	PHOTO COUPLER		
C1	NDC31HJ-151X	C CAPACITOR	150pF 50V J	
C2	NDC31HJ-330X	C CAPACITOR	33pF 50V J	
C4	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C5	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C7	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C8	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C9	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C11	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C12	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C14	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C15	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C17	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C19	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C20	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C22	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C24	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C25	QEKJ1HM-335Z	E CAPACITOR	3.3uF 50V M	
C26	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C27	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C30	NCB31HK-331X	C CAPACITOR	330pF 50V K	
C31	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C33	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C34	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C35	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C36	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C37	NDC31HJ-4R0X	C CAPACITOR	4pF 50V J	
C40	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C41	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C43	QEKJ1HM-335Z	E CAPACITOR	3.3uF 50V M	
C44	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C45	NCB31EK-472X	C CAPACITOR	4700pF 25V K	
C46	NCB31CK-333X	C CAPACITOR	0.033uF 16V K	
C47	QEKJ1HM-474Z	E CAPACITOR	0.47uF 50V M	
C48	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C49	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C56	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C57	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C58	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C59	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C60	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C77	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C78	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	

MODEL	MARK	MODEL	MARK
HR-XVC22UC	A	HR-XVC27UC	D
HR-XVC23UC	B	HR-XVC27US	E
HR-XVC26US	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
C201	NDC31HJ-220X	C CAPACITOR	22pF 50V J	
C202	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C203	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C204	NCB31HK-681X	C CAPACITOR	680pF 50V K	
C205	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C206	NCB31HK-681X	C CAPACITOR	680pF 50V K	
C207	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C209	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C210	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C212	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C213	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C2001	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2002	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C2005	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2006	NCB31EK-682X	C CAPACITOR	6800pF 25V K	
C2007	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C2008	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2009	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C2010	NCB31HK-681X	C CAPACITOR	680pF 50V K	
C2011	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2012	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2051	NCB31HK-331X	C CAPACITOR	330pF 50V K	
C2052	QFV61HJ-823Z	MF CAPACITOR	0.082uF 50V J	
C2053	NCB31HK-472X	C CAPACITOR	4700pF 50V K	
C2054	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C2055	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2201	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2202	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2203	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C2204	QEKJ0JM-336Z	E CAPACITOR	33uF 6.3V M	
C2205	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2206	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2207	NCB31EK-153X	C CAPACITOR	0.015uF 25V K	
C2208	NCB31EK-153X	C CAPACITOR	0.015uF 25V K	
C2209	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2210	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2211	QEKJ0JM-336Z	E CAPACITOR	33uF 6.3V M	
C2212	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C2214	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2215	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2218	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	C,D,E
C2219	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	C,D,E
C2220	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C2221	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C2222	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C2234	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2235	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C2251	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C2252	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C2253	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C2254	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C2255	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C2256	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C2257	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C2259	QEKJ1HM-334Z	E CAPACITOR	0.33uF 50V M	
C3011	QETN1AM-477Z	E CAPACITOR	470uF 10V M	
C3012	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C3014	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C3016	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C3022	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C3024	NDC31HJ-120X	C CAPACITOR	12pF 50V J	
C3030	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C3031	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C3033	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C3036	NDC31HJ-180X	C CAPACITOR	18pF 50V J	
C3037	NDC31HJ-120X	C CAPACITOR	12pF 50V J	
C3041	NDC31HJ-180X	C CAPACITOR	18pF 50V J	
C3045	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C3050	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C3052	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C3054	NCB31HK-222X	C CAPACITOR	2200pF 50V K	
C3071	QETJ1HM-336Z	E CAPACITOR	33uF 50V M	
C4002	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C4004	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C4005	NDC31HJ-181X	C CAPACITOR	180pF 50V J	
C4006	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C4008	QEQF1HM-105Z	E CAPACITOR	1uF 50V M	
C4009	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C4010	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C4011	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C4012	QEKJ1HM-224Z	E CAPACITOR	0.22uF 50V M	
C4014	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C4015	NCB31HK-221X	C CAPACITOR	220pF 50V K	
⚠ C5001	QFZ9077-473	MPP CAPACITOR	0.047uF 275V M	
⚠ C5003	QCZ9079-101	C CAPACITOR	100pF AC250V K	
⚠ C5004	QCZ9079-472	C CAPACITOR	4700pF AC250V M	
C5006	QETM2DM-157	E CAPACITOR	150uF 200V M	
C5101	QCZ0336-330Z	C CAPACITOR	33pF 1kV J	
C5102	QCZ0333-472	C CAPACITOR	4700pF 1kV K	
C5104	QETN1HM-105Z	E CAPACITOR	1uF 50V M	
C5106	NCB31HK-821X	C CAPACITOR	820pF 50V K	
C5108	NCB31HK-104X	C CAPACITOR	0.1uF 50V K	
C5109	NCB31HK-183X	C CAPACITOR	0.018uF 50V K	
C5202	QEMT1AM-128	E CAPACITOR	1200uF 10V M	
C5204	QEMT1AM-128	E CAPACITOR	1200uF 10V M	
C5205	QEMU1CM-397Z	E CAPACITOR	390uF 16V M	
C5207	QETN2AM-475Z	E CAPACITOR	4.7uF 100V M	
C5209	QETN1AM-107Z	E CAPACITOR	100uF 10V M	
C5210	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C5211	QETN1AM-107Z	E CAPACITOR	100uF 10V M	
C5214	NCB31AK-154X	C CAPACITOR	0.15uF 10V K	
C5303	QETN1HM-225Z	E CAPACITOR	2.2uF 50V M	
C5304	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C5305	QETN1AM-107Z	E CAPACITOR	100uF 10V M	
C5306	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C5307	NCB31HK-471X	C CAPACITOR	470pF 50V K	
C5309	QETN1AM-107Z	E CAPACITOR	100uF 10V M	
C5310	QETN1AM-107Z	E CAPACITOR	100uF 10V M	
C5314	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C6013	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C6021	NCB31HK-331X	C CAPACITOR	330pF 50V K	C,D,E
C6053	NDC31HJ-120X	C CAPACITOR	12pF 50V J	C,D,E
C6054	NDC31HJ-100X	C CAPACITOR	10pF 50V J	C,D,E
C6501	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6502	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C6503	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
C6504	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C6505	QEKJ1HM-335Z	E CAPACITOR	3.3uF 50V M	
C6508	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C6509	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C6511	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C6512	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C6513	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M	
C6514	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C6515	QEKJ1HM-335Z	E CAPACITOR	3.3uF 50V M	
C6516	QEKJ1EM-475Z	E CAPACITOR	4.7uF 25V M	
C6517	NCB31AK-224X	C CAPACITOR	0.22uF 10V K	
C6532	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C7114	QETJ0JM-477Z	E CAPACITOR	470uF 6.3V M	
C7117	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C7118	QEKJ1EM-106Z	E CAPACITOR	10uF 25V M	
C7119	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C7120	QETJ0JM-477Z	E CAPACITOR	470uF 6.3V M	
C7121	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C7123	QETJ0JM-477Z	E CAPACITOR	470uF 6.3V M	
C7124	QETJ0JM-477Z	E CAPACITOR	470uF 6.3V M	
C7125	QETJ0JM-477Z	E CAPACITOR	470uF 6.3V M	
C7129	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C7131	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C7132	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C7133	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C7134	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C7135	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C7136	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C7502	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C7503	QEKJ1HM-475Z	E CAPACITOR	4.7uF 50V M	
C7504	NDC31HJ-151X	C CAPACITOR	150pF 50V J	
C8001	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C8002	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C8003	NCB31HK-821X	C CAPACITOR	820pF 50V K	
C8004	NCB31HK-821X	C CAPACITOR	820pF 50V K	
C8005	NCB31HK-821X	C CAPACITOR	820pF 50V K	
C8006	NCB31HK-821X	C CAPACITOR	820pF 50V K	
C8007	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C8008	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C8052	QEKJ0JM-107Z	E CAPACITOR	100uF 6.3V M	

MODEL	MARK	MODEL	MARK
HR-XVC22UC	A	HR-XVC27UC	D
HR-XVC23UC	B	HR-XVC27US	E
HR-XVC26US	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
C8201	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
C8202	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C8203	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
C8301	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C8302	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
C8303	NCF31EZ-104X	C CAPACITOR	0.1uF 25V Z	
R1	NRSA63J-622X	MG RESISTOR	6.2kΩ 1/16W J	
R2	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	
R3	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R11	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R12	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R36	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R37	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R201	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R202	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R203	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R204	NRSA63J-474X	MG RESISTOR	470kΩ 1/16W J	
R205	NRSA63J-301X	MG RESISTOR	300Ω 1/16W J	
R206	NRSA63J-474X	MG RESISTOR	470kΩ 1/16W J	
R210	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R212	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R2007	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R2010	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R2013	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R2014	NRSA63J-394X	MG RESISTOR	390kΩ 1/16W J	
R2015	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J	
R2016	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R2017	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R2018	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2019	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2021	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R2022	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R2023	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	
R2024	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R2053	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R2054	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R2055	NRSA63J-3R3X	MG RESISTOR	3.3Ω 1/16W J	
R2056	QRE141J-820Y	C RESISTOR	82Ω 1/4W J	
R2057	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R2058	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R2059	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R2060	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R2201	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R2202	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R2205	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R2206	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R2209	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
R2210	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2211	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R2212	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R2213	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2214	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
R2216	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	C,D,E
R2218	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R2219	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2220	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R2221	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R2222	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R2223	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	
R2224	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	
R2230	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R2231	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R2251	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R2252	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R2255	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R2257	NRSA63J-684X	MG RESISTOR	680kΩ 1/16W J	
R3033	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J	
R3034	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J	
R3043	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R3045	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R3046	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R3047	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R3048	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R3049	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R3051	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R3052	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R3053	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R3054	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R3058	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R3061	QRE141J-331Y	C RESISTOR	330Ω 1/4W J	
R3062	QRE141J-331Y	C RESISTOR	330Ω 1/4W J	
R3063	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R3064	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R3065	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J	
R3069	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	
R3074	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R3077	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R3080	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R3082	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R3085	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R3098	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	
R3099	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R3101	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R3201	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R3202	NRSA63J-393X	MG RESISTOR	39kΩ 1/16W J	
R3205	QRE141J-181Y	C RESISTOR	180Ω 1/4W J	
R3207	QRE141J-183Y	C RESISTOR	18kΩ 1/4W J	
R3208	NRSA63J-121X	MG RESISTOR	120Ω 1/16W J	
R3209	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R3210	NRSA63J-121X	MG RESISTOR	120Ω 1/16W J	
R3211	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R3212	QRE141J-474Y	C RESISTOR	470kΩ 1/4W J	
R3213	NRSA63J-334X	MG RESISTOR	330kΩ 1/16W J	
R3214	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R3215	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R3216	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R3217	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R3218	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R3219	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R3220	QRE141J-104Y	C RESISTOR	100kΩ 1/4W J	
R3222	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R3223	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R3224	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R3225	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R3229	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
R3234	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R3235	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J	
R3236	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J	
R3244	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R3246	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R3248	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R3256	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R4001	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R4003	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	
R4004	NRSA63J-561X	MG RESISTOR	560Ω 1/16W J	
R4005	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
R4007	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R4009	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R4012	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R4015	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R4017	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
⚠ R5001	QRZ9046-475Z	C RESISTOR	4.7MΩ 1/2W K	
R5101	QRE141J-224Y	C RESISTOR	220kΩ 1/4W J	
R5102	QRE141J-224Y	C RESISTOR	220kΩ 1/4W J	
R5103	QRE141J-683Y	C RESISTOR	68kΩ 1/4W J	
R5104	QRG02GJ-683	OMF RESISTOR	68kΩ 2W J	
R5106	QRT01DJ-R27X	MF RESISTOR	0.27Ω 1W J	
R5107	QRE121J-331Y	C RESISTOR	330Ω 1/2W J	
R5108	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	
R5109	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
R5110	NRSA63J-224X	MG RESISTOR	220kΩ 1/16W J	
R5111	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R5112	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R5113	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R5201	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R5202	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R5203	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R5204	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R5205	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R5206	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R5311	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R5312	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R5313	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R5316	QRE141J-181Y	C RESISTOR	180Ω 1/4W J	
R5317	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	

MODEL	MARK	MODEL	MARK
HR-XVC22UC	A	HR-XVC27UC	D
HR-XVC23UC	B	HR-XVC27US	E
HR-XVC26US	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
R5319	NRSA63J-560X	MG RESISTOR	56Ω 1/16W J	
R5320	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R5321	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R5325	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R6020	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R6021	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R6030	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R6031	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R6050	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	C,D,E
R6051	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	C,D,E
R6054	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	C,D,E
R6055	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	C,D,E
R6502	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R7134	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	
R7135	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R7137	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
R7154	QRE141J-750Y	C RESISTOR	75Ω 1/4W J	
R7155	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	
R7156	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R7164	QRE141J-750Y	C RESISTOR	75Ω 1/4W J	
R7165	QRE141J-750Y	C RESISTOR	75Ω 1/4W J	
R7166	QRE141J-750Y	C RESISTOR	75Ω 1/4W J	
R7173	NRSA63J-181X	MG RESISTOR	180Ω 1/16W J	
R7174	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R7175	NRSA63J-181X	MG RESISTOR	180Ω 1/16W J	
R7176	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R7177	NRSA63J-820X	MG RESISTOR	82Ω 1/16W J	
R7179	NRSA63J-820X	MG RESISTOR	82Ω 1/16W J	
R7183	NRSA63J-181X	MG RESISTOR	180Ω 1/16W J	
R7184	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R7501	NRSA02J-100X	MG RESISTOR	10Ω 1/10W J	
R7502	NRSA63J-301X	MG RESISTOR	300Ω 1/16W J	
R7503	NRSA63J-301X	MG RESISTOR	300Ω 1/16W J	
R7504	NRSA63J-820X	MG RESISTOR	82Ω 1/16W J	
R7506	NRSA63J-330X	MG RESISTOR	33Ω 1/16W J	
R8001	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R8002	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R8003	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R8004	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R8005	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	
R8006	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	
R8007	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R8008	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	
R8009	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R8010	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
R8013	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R8014	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R8015	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R8016	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R8017	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R8018	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R8052	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
R8053	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
R8054	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R8055	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R8201	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R8202	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R8203	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R8204	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R8205	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R8206	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R8207	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R8214	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R8215	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R8216	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R8217	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R8221	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R8222	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R8223	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R8227	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R8250	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R8251	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R8252	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R8259	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R8260	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R8262	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R8263	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R8301	QRE141J-4R7Y	C RESISTOR	4.7Ω 1/4W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
L5	QQL29BJ-100Z	P COIL	0.40Ω 10uH J	
L7	QQL071J-120Y	COIL	1.50Ω 12uH J	
L10	QQL29BJ-100Z	P COIL	0.40Ω 10uH J	
L201	QQL231J-150Y	COIL	2.50Ω 15uH J	
L2251	QQL29BJ-100Z	P COIL	0.40Ω 10uH J	
L4001	QQL231K-1R0Y	COIL	0.80Ω 1uH K	
L5201	PELN1184	CHOKE COIL		
L5202	PELN1184	CHOKE COIL		
L5203	PELN1184	CHOKE COIL		
L5303	QQL231J-220Y	COIL	3.4Ω 22uH J	
L7101	QQL29BJ-100Z	P COIL	0.40Ω 10uH J	
L7103	QQL29BJ-100Z	P COIL	0.40Ω 10uH J	
L7501	QQL231K-1R0Y	COIL	0.80Ω 1uH K	
T2051	PELN0832	OSC TRANS		
⚠ T5001	QQS0219-001	SW TRANSF		
B10	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B3003	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B5301	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B5303	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B5393	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B6024	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B6025	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B7501	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
B7502	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
⚠ CD1	QMPD530-172-JD	POWER CORD(US/CA)	1.72m BLACK	
CN1	QGF1201C2-09	CONNECTOR	FFC/FPC (1-9)	
CN2001	QGF1207C1-06	CONNECTOR	FFC/FPC (1-6)	
CN2002	QGB2532J1-02	CONNECTOR	B-B (1-2)	
CN3001	QGB2032M4-12	CONNECTOR	B-B (1-12)	
CN3102	QGF1207C1-22	CONNECTOR	FFC/FPC (1-22)	
CN7103	QGF1207C1-10	CONNECTOR	FFC/FPC (1-10)	
CN7301	QGF1016C3-19	CONNECTOR	FFC/FPC (1-19)	
CN7302	QGF1016C3-17	CONNECTOR	FFC/FPC (1-17)	
CN8301	QGF1016C3-05	CONNECTOR	FFC/FPC (1-5)	
⚠ CP3002	NMFZ012-1R0X-M	FUSE	1A 50V	
⚠ CP3101	NMFZ012-1R0X-M	FUSE	1A 50V	
⚠ CP4002	NMFZ012-1R0X-M	FUSE	1A 50V	
⚠ CP5303	NMFZ012-1R0X-M	FUSE	1A 50V	
⚠ CP5304	NMFZ012-1R0X-M	FUSE	1A 50V	
⚠ F5001	QMF51N2-1R25-J1	FUSE	1.25A AC250V	
FC5001	QNG0020-001Z	FUSE CLIP		
FC5002	QNG0020-001Z	FUSE CLIP		
HS1	LP40090-001A	HEAT SINK	Q5101	
J7002	QNN0586-001	PIN JACK	A/V IN OUT	
J7004	QNZ0652-001	AV JACK	DVD/VCR OUT	
J7005	QNN0587-002	PIN JACK	COMPONENT VIDEO OUT	
J7009	QNN0347-001	SURROUND JACK	COAX OUT	
JS3001	QSW0954-003	ROTARY ENCODER		
K5101	QQR0678-001Z	FERRITE BEADS		
⚠ LF5002	QQR0932-001	LINE FILTER		
OT1	LP31158-001A	BOSS(MECHA) 1		
OT2	LP31185-001A	BOSS(MECHA) 2	(x2)	
OT3	QYTDST3006Z	TAP SCREW	3M x 6mm Q5101	
S3001	QSW0602-004	PUSH SWITCH	REC.SAFETY	
SD1	LP31179-001A	SHILD PLATE(PRE/REC)		
TU6001	QAU0336-001	TUNER		
⚠ VA5001	QAF0039-431Z	VARISTOR	430V	
W2	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W3	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W4	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W5	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W6	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W7	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W8	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W9	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W11	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W12	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W13	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W14	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W15	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W18	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W20	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W22	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W23	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W24	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W25	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	

MODEL	MARK	MODEL	MARK
HR-XVC22UC	A	HR-XVC27UC	D
HR-XVC23UC	B	HR-XVC27US	E
HR-XVC26US	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
W26	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W27	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W28	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W29	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W30	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W31	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W32	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W33	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W34	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W35	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W36	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W37	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W39	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W40	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W42	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W44	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W45	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W48	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W49	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
W51	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
WR6	QUB351-08Z4Z4	SIN TWIST WIRE		
X2	QAX0739-001	CRYSTAL	3.57MHz	
X3001	QAX0444-001	CRYSTAL	32.768kHz	
X3002	QAX0527-001	CRYSTAL	10.000000MHz	
X8201	QAX0246-001Z	C RESONATOR	8.00MHz	

A/C HEAD BOARD ASSEMBLY <12>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10158-01A1	A/C HEAD BOARD ASSY		

DISPLAY BOARD ASSEMBLY <28>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10228-01A1	DISPLAY BOARD ASSY		
IC7002	GP1UM281XK	IR DETECT UNIT	38kHz	
IC7002 or	PNA4652M00XB	IR DETECT UNIT	38kHz	
Q7001	2SA1037AK/QR/-X	TRANSISTOR		
Q7001 or	2SB709A/QR/-X	TRANSISTOR		
Q7001 or	2SA1530A/QR/-X	SI TRANSISTOR		
Q7002	2SA1037AK/QR/-X	TRANSISTOR		
Q7002 or	2SB709A/QR/-X	TRANSISTOR		
Q7002 or	2SA1530A/QR/-X	SI TRANSISTOR		
Q7003	2SA1037AK/QR/-X	TRANSISTOR		
Q7003 or	2SB709A/QR/-X	TRANSISTOR		
Q7003 or	2SA1530A/QR/-X	SI TRANSISTOR		
Q7004	2SA1037AK/QR/-X	TRANSISTOR		
Q7004 or	2SB709A/QR/-X	TRANSISTOR		
Q7004 or	2SA1530A/QR/-X	SI TRANSISTOR		
Q7005	2SA1037AK/QR/-X	TRANSISTOR		
Q7005 or	2SB709A/QR/-X	TRANSISTOR		
Q7005 or	2SA1530A/QR/-X	SI TRANSISTOR		
Q7006	2SA1037AK/QR/-X	TRANSISTOR		
Q7006 or	2SB709A/QR/-X	TRANSISTOR		
Q7006 or	2SA1530A/QR/-X	SI TRANSISTOR		
Q7007	2SA1037AK/QR/-X	TRANSISTOR		
Q7007 or	2SB709A/QR/-X	TRANSISTOR		
Q7007 or	2SA1530A/QR/-X	SI TRANSISTOR		
Q7008	2SC2412K/QRS/-X	TRANSISTOR		
Q7008 or	2SD601A/QRS/-X	TRANSISTOR		
Q7008 or	2SC3928A/QRS/-X	TRANSISTOR		
Q7009	2SC2412K/QRS/-X	TRANSISTOR		
Q7009 or	2SD601A/QRS/-X	TRANSISTOR		
Q7009 or	2SC3928A/QRS/-X	TRANSISTOR		
Q7010	2SC2412K/QRS/-X	TRANSISTOR		
Q7010 or	2SD601A/QRS/-X	TRANSISTOR		
Q7010 or	2SC3928A/QRS/-X	TRANSISTOR		
Q7011	2SC2412K/QRS/-X	TRANSISTOR		
Q7011 or	2SD601A/QRS/-X	TRANSISTOR		
Q7011 or	2SC3928A/QRS/-X	TRANSISTOR		
Q7012	2SC2412K/QRS/-X	TRANSISTOR		
Q7012 or	2SD601A/QRS/-X	TRANSISTOR		
Q7012 or	2SC3928A/QRS/-X	TRANSISTOR		
Q7013	2SC2412K/QRS/-X	TRANSISTOR		
Q7013 or	2SD601A/QRS/-X	TRANSISTOR		
Q7013 or	2SC3928A/QRS/-X	TRANSISTOR		
Q7014	2SC2412K/QRS/-X	TRANSISTOR		
Q7014 or	2SD601A/QRS/-X	TRANSISTOR		
Q7014 or	2SC3928A/QRS/-X	TRANSISTOR		
D7006	SLR-343MC-T	LED	DVD	
C7011	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M	
R7001	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R7002	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R7003	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R7004	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R7005	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R7006	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R7007	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R7010	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R7011	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R7012	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R7013	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R7014	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	
R7015	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7020	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R7021	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R7022	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	
R7023	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R7031	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7032	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7033	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7034	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7035	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7036	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7037	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7040	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R7041	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
CN7003	QGF1208F1-22	CONNECTOR	FFC/FPC (1-22)	
DI7001	LTG-0376M-J	LED		
S7001	QSW1061-001Z	TACT SWITCH	OPEN/CLOSE	
S7002	QSW1061-001Z	TACT SWITCH	PROGRESSIVE SCAN	
S7003	QSW1061-001Z	TACT SWITCH	CH+	
S7004	QSW1061-001Z	TACT SWITCH	FF	
S7005	QSW1061-001Z	TACT SWITCH	REW	
S7006	QSW1061-001Z	TACT SWITCH	REC	
S7010	QSW1061-001Z	TACT SWITCH	CH-	
S7011	QSW1061-001Z	TACT SWITCH	PLAY	
S7012	QSW1061-001Z	TACT SWITCH	STOP	
S7013	QSW1061-001Z	TACT SWITCH	VCR/DVD	

DVD BRACKET BOARD ASSEMBLY <31>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10228-01A3	DVD BRACKET BOARD ASSY		

JACK BOARD ASSEMBLY <36>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10228-01A2	JACK BOARD ASSY		
D7005	SLR-343MC-T	LED	VHS	
R7025	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R7042	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	

MODEL	MARK	MODEL	MARK
HR-XVC22UC	A	HR-XVC27UC	D
HR-XVC23UC	B	HR-XVC27US	E
HR-XVC26US	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
R7191	NRSA63J-750X	MG RESISTOR	75Ω 1/16W J	
CN7191	QGF1201F2-10	CONNECTOR	FFC/FPC (1-10)	
J7191	QNN0591-002	PIN JACK	AV IN	
S7014	QSW1061-001Z	TACT SWITCH	POWER	
S7015	QSW1061-001Z	TACT SWITCH	EJECT	

LOADING MOTOR BOARD ASSEMBLY <55>

⚠ Symbol No.	Part No.	Part Name	Description	Local
PW1	LPA10158-01A2	LOADING MOTOR BOARD ASSY		

SWITCH BOARD ASSEMBLY <98>

⚠ Symbol No.	Part No.	Part Name	Description	Local
CN1	QGF1016F3-05	CONNECTOR	FFC/FPC (1-5)	
S1	QSW1007-001	DETECT SWITCH	DET SW	

DVD SERVO CONTROL BOARD ASSEMBLY <99>

⚠ Symbol No.	Part No.	Part Name	Description	Local
IC201	LA6502-X	IC		
IC301	MN2DS0003AA-H	IC		
IC302	LM1117MP-ADJ-X	IC	1.5v REG	
IC453	S-80827CNNB-W	IC		
IC505	K4S641632F-TC75	IC(DIGITAL)	CMOS SDRAM	
IC505 or	K4S641632H-TC75	IC(DIGITAL)		
IC505 or	HY57V641620HGT7	IC		
IC509	AT49LV1614R0012	IC (FLASH)	(SERVICE)	
IC701	AK4384VT-X	IC		
Q101	KTA1001/Y/-X	TRANSISTOR		
Q101 or	2SB1424/R/-W	TRANSISTOR		
Q102	2SC4617/R/-X	TRANSISTOR		
Q103	KTA1001/Y/-X	TRANSISTOR		
Q103 or	2SB1424/R/-W	TRANSISTOR		
Q104	2SC4617/R/-X	TRANSISTOR		
Q105	UN2119-X	TRANSISTOR		
C101	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C102	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C103	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C104	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C105	NEA70JM-476X	E CAPACITOR	47uF 6.3V M	
C106	NEA70JM-476X	E CAPACITOR	47uF 6.3V M	
C107	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C108	NEA70JM-476X	E CAPACITOR	47uF 6.3V M	
C111	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C204	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C205	NCB31HK-271X	C CAPACITOR	270pF 50V K	
C206	NDC31HJ-151X	C CAPACITOR	150pF 50V J	
C208	NCB31HK-561X	C CAPACITOR	560pF 50V K	
C211	NCB31HK-223X	C CAPACITOR	0.022uF 50V K	
C212	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C217	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C251	NCB31AK-474X	C CAPACITOR	0.47uF 10V K	
C253	NCB31HK-561X	C CAPACITOR	560pF 50V K	
C255	NCB31CK-153X	C CAPACITOR	0.015uF 16V K	
C256	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C257	NCB31HK-822X	C CAPACITOR	8200pF 50V K	
C258	NCB31CK-153X	C CAPACITOR	0.015uF 16V K	
C259	NCB31CK-153X	C CAPACITOR	0.015uF 16V K	
C260	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C261	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C262	NCB31EK-223X	C CAPACITOR	0.022uF 25V K	
C264	NEA70JM-227X	E CAPACITOR	220uF 6.3V M	
C301	NEA70GM-227X	E CAPACITOR	220uF 4V M	
C302	NEA70GM-476X	E CAPACITOR	47uF 4V M	
C303	NEA70GM-476X	E CAPACITOR	47uF 4V M	
C304	NCB31CK-105X	C CAPACITOR	1uF 16V K	
C305	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C306	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C307	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C308	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C309	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C310	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C311	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C312	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C313	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C314	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C315	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C316	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C317	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C318	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C319	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C320	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C321	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C322	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C323	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C324	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C325	NDC31HJ-180X	C CAPACITOR	18pF 50V J	
C326	NDC31HJ-150X	C CAPACITOR	15pF 50V J	
C327	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C330	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C331	NCB31CK-333X	C CAPACITOR	0.033uF 16V K	
C332	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C333	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C334	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C335	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C337	NCB31CK-183X	C CAPACITOR	0.018uF 16V K	
C338	NCB31HK-562X	C CAPACITOR	5600pF 50V K	
C339	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C340	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C341	NCB30JK-105X	C CAPACITOR	1uF 6.3V K	
C347	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C348	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C349	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C350	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C356	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C359	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C371	NCB21CK-105X	C CAPACITOR	1uF 16V K	
C374	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C391	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C392	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C455	NCB31CK-103X	C CAPACITOR	0.01uF 16V K	
C505	NDC31HJ-330X	C CAPACITOR	33pF 50V J	
C506	NDC31HJ-330X	C CAPACITOR	33pF 50V J	
C507	NDC31HJ-330X	C CAPACITOR	33pF 50V J	
C508	NDC31HJ-330X	C CAPACITOR	33pF 50V J	
C509	NDC31HJ-330X	C CAPACITOR	33pF 50V J	
C510	NDC31HJ-330X	C CAPACITOR	33pF 50V J	
C547	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C551	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C552	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C553	NBE20JM-226X	TA E CAPACITOR	22uF 6.3V M	
C554	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C555	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C556	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C557	NCF31AZ-105X	C CAPACITOR	1uF 10V Z	
C558	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C559	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C701	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C704	NEA70JM-227X	E CAPACITOR	220uF 6.3V M	
C706	NEA71CM-106X	E CAPACITOR	10uF 16V M	
C707	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C721	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
C902	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C903	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C904	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
C906	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	
R101	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R102	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R103	NRSA63J-243X	MG RESISTOR	24kΩ 1/16W J	

MODEL	MARK	MODEL	MARK
HR-XVC22UC	A	HR-XVC27UC	D
HR-XVC23UC	B	HR-XVC27US	E
HR-XVC26US	C		

⚠ Symbol No.	Part No.	Part Name	Description	Local
R104	NRSA63J-303X	MG RESISTOR	30kΩ 1/16W J	
R105	NRS125J-270X	MG RESISTOR	27Ω 1/2W J	
R106	NRSA63J-2R2X	MG RESISTOR	2.2Ω 1/16W J	
R107	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R108	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R109	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R110	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R111	NRSA63J-243X	MG RESISTOR	24kΩ 1/16W J	
R112	NRSA63J-303X	MG RESISTOR	30kΩ 1/16W J	
R113	NRS125J-270X	MG RESISTOR	27Ω 1/2W J	
R114	NRSA63J-2R2X	MG RESISTOR	2.2Ω 1/16W J	
R115	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R116	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R117	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R118	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R119	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R120	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R122	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R123	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R125	NRS125J-1R0X	MG RESISTOR	1Ω 1/2W J	
R126	NRSA02J-181X	MG RESISTOR	180Ω 1/10W J	
R128	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R204	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R205	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R206	NRSA63J-303X	MG RESISTOR	30kΩ 1/16W J	
R207	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R208	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R213	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R214	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R215	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R219	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R220	NRSA63J-243X	MG RESISTOR	24kΩ 1/16W J	
R221	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R251	NRS125J-R47X	MG RESISTOR	0.47Ω 1/2W J	
R252	NRSA63J-2R2X	MG RESISTOR	2.2Ω 1/16W J	
R254	NRSA63J-203X	MG RESISTOR	20kΩ 1/16W J	
R255	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R257	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R259	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R302	NRSA63J-240X	MG RESISTOR	24Ω 1/16W J	
R303	NRSA63J-270X	MG RESISTOR	27Ω 1/16W J	
R306	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R307	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R308	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R309	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R310	NRS125J-R47X	MG RESISTOR	0.47Ω 1/2W J	
R312	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R313	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R314	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R315	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R316	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R317	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R318	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R319	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R320	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R322	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R323	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R325	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R326	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R333	NRSA63J-163X	MG RESISTOR	16kΩ 1/16W J	
R334	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R335	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R336	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R337	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R338	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R339	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R340	NRSA63D-303X	MG RESISTOR	30kΩ 1/16W D	
R341	NRSA63D-362X	MG RESISTOR	3.6kΩ 1/16W D	
R342	NRSA63D-222X	MG RESISTOR	2.2kΩ 1/16W D	
R343	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R344	NRSA63J-6R8X	MG RESISTOR	6.8Ω 1/16W J	
R345	NQR0129-002X	FERRITE BEADS		
R351	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	
R352	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
R357	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R358	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R361	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R362	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	

⚠ Symbol No.	Part No.	Part Name	Description	Local
R363	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R372	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R373	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R378	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R379	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R384	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R385	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R390	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R391	NAD0025-103X	N THERMISTOR	10kΩ	
R392	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R393	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R394	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R395	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R457	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R458	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R501	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R502	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	
R503	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R510	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R551	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R553	NQR0129-002X	FERRITE BEADS		
R554	NQR0129-002X	FERRITE BEADS		
R555	NQR0129-002X	FERRITE BEADS		
R556	NQR0129-002X	FERRITE BEADS		
R557	NQR0129-002X	FERRITE BEADS		
R558	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R701	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R702	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R710	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
R711	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R712	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R713	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R716	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R718	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R719	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R909	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
R911	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
L501	NQL044K-100X	COIL	0.26Ω 10uH K	
CN101	QGF0523F1-24W	CONNECTOR	FFC/FPC (1-24)	
CN201	QGF1016F2-08W	CONNECTOR	FFC/FPC (1-8)	
CN501	QGF1016F2-19W	CONNECTOR	FFC/FPC (1-19)	
CN503	QGF1016F2-17W	CONNECTOR	FFC/FPC (1-17)	
K101	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
K102	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J	
K301	NQR0354-001X	FERRITE BEADS		
K302	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
K303	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
K304	NQR0354-001X	FERRITE BEADS		
K501	NQR0129-002X	FERRITE BEADS		
K551	NQR0129-002X	FERRITE BEADS		
K552	NQR0129-002X	FERRITE BEADS		
K553	NQR0129-002X	FERRITE BEADS		
K554	NQR0129-002X	FERRITE BEADS		
K555	NQR0022-005X	FERRITE BEADS		
K556	NQR0129-002X	FERRITE BEADS		
X351	NAX0550-001X	CRYSTAL	27.000MHz	
OT1	VPZ4011-003	SERIAL LABEL		